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ABSTRACT

This report documents the current situation in Australia with respect to literacy learning of individuals with intellectual disabilities. Information for the study was obtained in the following ways: literature review; a survey of services offered in Australia (respondents were 90 principals/directors/presidents; 201 service providers; 37 correctional service institutions; 108 course convenors; 102 teachers/tutors; and 205 community agencies); a study of the competencies and needs of a sample of 18 adults with intellectual disabilities in their work environments; and 5 special projects focusing on providing literacy services for people with intellectual disabilities. The report is organized in three volumes. Volume 1 comprises an overview of the project, an executive summary, and conclusions and recommendations. Volume 2 contains the literature reviews, results of studies and questionnaire surveys, and the five special project reports: "Study of the Provision of Adult Literacy/Numeracy to Adults with Intellectual Disabilities at Rockhampton College of Technical and Further Education (TAFE)" (Simonds); "Study of the Support Offered to Students with Intellectual Disabilities at Redlands Community College" (Laakso); "Assessment of Literacy Skills Using Facilitated Communication" (Attwood, Remington-Gurney); "Investigation of the Use of Rebuses, and the Strategy of Symbol Fading To Enhance the Literacy Skills of Twelve Individuals with Intellectual Disabilities" (Woolard, Groves); and "Report on an Adult Literacy Tutor Training Program for Caregiver/Supervisors Who Work with Adults with Moderate/Severe Intellectual Disabilities at Rockhampton College of TAFE" (Harreveld). Volume 3 has three sections: (1) 12 appendices containing the questionnaires and lists of survey respondents; (2) 11 appendices of participant profiles and sample materials from the Rockhampton College study; and (3) 9 appendices of sample materials from the Redlands Community College project. (KC)

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A SURVEY OF ADULT LITERACY PROVISION FOR PEOPLE WITH INTELLECTUAL DISABILITIES

C.E. van Kraayenoord

Editor

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C. E. van Kraayenoord

Editor

Schonell Special Education Research Centre, The University of Queensland, the Queensland Division of Intellectual Disability Services, and the Division of Adult Education, Access and Equity (BEVFET)

Brisbane

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A SURVEY OF ADULT LITERACY PROVISION FOR PEOPLE WITH INTELLECTUAL DISABILITIES

CONTRIBUTORS

This report is the product of a large number of people. It is a testimony to collaboration and shared expertise.

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OVERVIEW OF REPORT

Christa van Kraayenoord

In 1991 the Commonwealth Government provided funding for 9 projects related to International Literacy Year (1990). One of these projects was a 'Survey of adult literacy provision for people with an intellectual disability'. The project brief was as follows.

> Background:
>
> There has been very little research into or provision of literacy programmes specifically for adults with intellectual disabilities. At present, people with a mild intellectual disability may enrol in existing literacy programmes offered by TAFE colleges. TAFE staff who work in the area of adult literacy often have inadequate knowledge of the learning needs of people with an intellectual disability and staff who work in the field of intellectual disability have little experience in teaching literacy.
>
> Outline of Project: (Aims, Tasks)
>
> The project will investigate the literacy needs of Australians with an intellectual disability, particularly needs that relate to ability to function within their own and the wider community, in daily life. It should investigate what those needs are, survey the extent to which those needs are currently provided for, and determine the nature and extent of the need for professional development and/or training for teachers and other staff.
>
> It is expected, also, that the project will also yield a critical review of the current literature in regard to techniques and strategies used in literacy education for intellectually handicapped persons; and recommendations in regard to future provision of literacy education for Australians with an intellectual disability.
>
> Proposed Outcomes:
>
> - A critical review of the current literature and programs in Australia and abroad.
> - An appraisal of the needs and competencies of a representative sample of the client group.
> - Review of current skills and training of relevant staff.
> - A pilot study and evaluation of a literacy education program/s for people with an intellectual disability. (ILY Secretariat, Project Brief)

A Survey of Adult Literacy Provision for People with Intellectual Disabilities was awarded to the Schonell Special Education Research Centre, The University of Queensland, the Queensland Division of Intellectual Disability Service and the Division of Adult Education, Access and Equity in the Bureau of Employment, Vocational and Further Education and Training, Queensland.

The four proposed outcomes established in the project brief were both met and extended in a number of different ways, partly in response to suggestions of the Steering Committee.

First, a review of the literature was undertaken. This review comprises a number of sections: historical overview of adult literacy and education provision for students with intellectual disabilities, factors affecting the learning of adults with intellectual disabilities, techniques and strategies used in assisting the acquisition of literacy skills of individuals with intellectual disabilities, reading materials, and technology in adult literacy programmes for people with intellectual disabilities.

Second, a review of services offered in Australia was undertaken to determine the extent and nature of literacy programmes for people with intellectual disabilities. Programme features such as goals, curriculum, implementation (techniques, materials), assessment and evaluation have been documented. Information about the services and programmes has been obtained from questionnaires directed at service and programme providers in both government and non-government sectors. Principals, directors, and presidents of service providers (colleges, organizations, etc.), the Commonwealth Employment Services and Skillshare, and Correctional Services were surveyed by mail and phone.

Third, information about the skills and training of staff working in programmes that include literacy learning for people with intellectual disabilities was collected. Teacher/tutor questionnaires were sent to individuals teaching adults with intellectual disabilities throughout Australia.

Fourth, a study was undertaken of the competencies and needs of a sample of adults with intellectual disabilities in their work environments. This study is a detailed description of the literacy behaviours of this group of individuals.

Finally, five special projects were undertaken. The Division of Adult Education, Access and Equity of the Bureau of Employment, Vocational and Further Education oversaw three of the projects. Two were based at the Rockhampton College of TAFE, Queensland. One project describes a training programme for tutors who will teach adults with intellectual disabilities. We believe this model of training is an example that may be adopted by others. The second project describes the instruction given by one service provider who taught two cohorts of students with intellectual disabilities. It is seen as an example of the type of literacy learning that may be common in other locations throughout Australia. A third project examined the nature of support offered to students with intellectual disabilities at a community college. This project describes the support offered at Redland Community College, Queensland. Staff from the Queensland Division of Intellectual Disability Services also oversaw two additional projects. These two projects focused on people with a severe intellectual disability. The first project describes the assessment of communication skills of these people using facilitated communication. The second project describes the teaching of communication skills to students with a severe intellectual disability using rebuses.

Throughout the report summaries have been made and conclusions have been drawn. Derived from our findings from the literature review, questionnaires, and special projects a number of recommendations have also been made. Volume One comprises this Overview, the Executive Summary, our Conclusions and Recommendations. Volume Two contains the Literature Reviews, Studies and Questionnaire Surveys and the Special Projects. Volume Three comprises the Appendices.

The report documents the current situation in Australia with respect to literacy learning of individuals with intellectual disabilities. The recommendations are made so that good practice can be affirmed and areas of concern can be addressed. The Report has been written with the knowledge that the quality of the lives of adults with intellectual disabilities can be enhanced through literacy and that this aim of International Literacy Year must continue to be a focus in this country.

EXECUTIVE SUMMARY

Christa van Kraayenoord, John Elkins and Pat Gunn

This Executive Summary is a synthesis of the results, descriptions, arguments, ideas and suggestions contained in Volume 2 (Reviews, Studies and Questionnaire Surveys, and Special Projects) and Volume 3 (Appendices) of *A Survey of Adult Literacy Provision for People with Intellectual Disabilities.*

The main findings of this Project can be organized around common themes or topics. These themes and topics emerged as recurrent references in the different sections of the Report. This Executive Summary has been organized according to these themes.

Literacy: A quality of life issue: A rights issue

An individual's quality of life can be examined and judged from a number of different perspectives. These include the participation in adult life, social and leisure-time activities, personal and emotional development, living arrangements, access and mobility, education, and employment. Within the domains of social and leisure activities, education and employment, as well as in the participation in adult life in general, competency in literacy and literacy learning itself may be viewed as key. All citizens of Australia have a right to become literate. Being literate involves communicating and understanding by symbols or words to express needs, opinions and feelings and to engage in everyday living successfully and with a sense of well-being. Australia as a nation and as a people can be judged by the opportunities it gives to adults with intellectual disabilities to become literate. This Project found that while some individuals with intellectual disabilities do have chances to learn to be literate and to engage in literacy activities, it is not a right enjoyed by all adults with intellectual disabilities. Indeed, the picture is one of neglect for the vast majority of these individuals. To place impediments in their way or to fail to meet their literacy needs means that their quality of life is different and inequitable. We believe this position must change.

Literacy: Defined

This project *A Survey of Adult Literacy Provision for People with Intellectual Disabilities* accepted the definition of literacy proposed by the International Literacy Year Secretariat (1990):

> Literacy involves the integration of listening, speaking, reading, writing and critical thought; it incorporates numeracy. It includes the cultural knowledge which enables a speaker, writer or reader to recognise language appropriate to different social situations. For an advanced technological society such as Australia, our goal must be an active literacy which allows people to use language to enhance their capacity to think, create and question, which helps them to become more aware of the world and empowers them to participate effectively in society. (p. 8)

Thus, for the Project, literacy was seen as a range of communication activities which continually change as the context, purpose and audience change. An overarching function of literacy for individuals with intellectual disabilities is that it is a means of empowering them to participate in meaningful ways within their environment.

Adults with intellectual disabilities

The term "adults with intellectual disabilities" comprises adults of post-secondary school age and includes **all** adults with intellectual disabilities, irrespective of severity.

Provision

One of the main aims of this Project was to establish the provision of literacy education for adults with intellectual disabilities in Australia. It should be noted that many of the numerical findings reported in the Report were based on very poor response rates to nearly all of our questionnaire surveys. In particular, a very poor return rate was received from the TAFE sector throughout the country. Therefore the questionnaire survey results following have to be viewed with this in mind.

- TAFE is the dominant literacy provider in the adult sector. Some literacy courses were provided specifically for adults with intellectual disabilities by TAFE. These courses were mainly for adults with "mild" intellectual disabilities.
- Literacy courses specifically for adults with intellectual disabilities whether provided by TAFE or other providers were recently developed, with many in their first year of operation.
- Mainstream literacy courses in TAFE were also attended by adults with "mild" intellectual disabilities.
- Services providers that represented community service providers or mainstream community agencies including non-government funded services reported they did provide literacy classes for individuals with intellectual disabilities, but these services were indirect, as the majority of courses were actually provided by TAFE.
- The perception that many individuals with intellectual disabilities are receiving literacy training "in the community" is false. TAFE remains in many cases the sole literacy provider.
- Respondents who indicated that they provided literacy courses for people with intellectual disabilities or a mainstream literacy course which people with intellectual disabilities attend, most typically described the courses as Adult Literacy/Basic Education Courses, designed to develop "functional literacy skills".
- Adults with intellectual disabilities attended prevocational and vocational courses at TAFEs, all of which would require some degree of literacy.
- In conjunction with the daily experiences of these adults, many community service providers give informal literacy training.
- Most TAFE respondents believed their courses to be successful and met the needs of individuals with intellectual disabilities in their area. Where needs were not met, some respondents suggested this was because they believed students with intellectual disabilities need to attend courses more than twice weekly. Other respondents suggested that supply could not keep up with demand.
- When we asked course teachers/tutors about waiting lists, 43% of respondents indicated they had waiting lists from 1 to 50 persons.
- The lack of funding was the most common reason given for the difficulties in provision, preparation and maintenance of courses in the TAFE sector.
- Insufficient staff or a lack of trained staff also emerged as a reason for difficulties in course provision for the target group.

- Additional personnel was the predominant form of special support for adults with intellectual disabilities in all courses in the TAFE sector.
- Employment and training agencies surveyed included Skillshare, CES, and other training and special service centres, with Skillshare being the main respondent. Literacy courses for adults with intellectual disabilities were not provided by the employment and training agencies, and clients were referred elsewhere for literacy training, especially to TAFE and courses such as ALBE.
- Adults with intellectual disabilities did participate in other courses provided by the employment and training centres, most of these were frequently prevocational and vocational courses. Again these probably required some degree of literacy.
- The assessment of clients prior to placement in suitable courses was typically undertaken outside the employment and training agency by DEET/Adult Education.
- Respondents identified problems in obtaining employment for adults with intellectual disabilities, but not with advising or training them.
- One quarter of the respondents also indicated it was difficult to place adults with intellectual disabilities into literacy courses.
- Where problems with provision of training were reported these related to the lack of suitable training courses, and a lack of funding.
- The "depressed labour market and current recession" was the most frequent reason given for difficulties in finding work for adults with intellectual disabilities.
- Correctional service staff indicated that individuals with intellectual disabilities were in their institutions and were provided with literacy education, predominantly through Basic Education Courses. These were often correspondence courses offered by TAFE. The appropriateness of correspondence courses for individuals with intellectual disabilities in correctional institutions should be investigated.
- Half of the respondents also indicated that special or separate training for adults with intellectual disabilities was provided in prisons. These were described as "basic education for intellectually disadvantaged individuals" and "TAFE Certificate work programmes for the intellectually disabled".
- Extra caution should be paid to interpreting results of literacy provision by correctional services institutions. First, responses were obtained from a small sample, most references were made to "basic education", and most institutions only estimated the number of adults with intellectual disabilities in their facilities.
- Some respondents argued that literacy provision for adults in rural communities was lacking or non-existent.
- While TAFE is the major service provider of literacy education for this group, some respondents indicated that not all colleges had "accepted responsibility for education and training of students with intellectual disabilities", nor were they sufficiently "flexible" in their "provision for individual differences".
- Course teachers and tutors indicated that effective course delivery was dependent on the teacher's skills, appropriate teaching resources, and access to the course.

Adult Learners with Intellectual Disabilities

Abilities

- It became apparent in our Project that many of the abilities of adults with intellectual disabilities are underestimated.

- Characteristics such as cognitive processing ability, verbal skills, experiential knowledge, and interests must be examined when planning literacy programmes for these students.
- A range of literacy skills must be expected in the population of adults with intellectual disabilities. This wide range was noted in one of the studies. This study described adults with levels of literacy corresponding roughly to pre-reading levels at preschool and early grade one, emerging readers at grades one to three, and most proficient readers at grade four level or above.
- Some adults will have literacy skills below the school entry level, and low general language skills. However, non-readers had some social and protective sight word recognition and could name letters of the alphabet.
- Poor sound-symbol association was a problem for the poorer readers and spellers.
- Adults with emerging reading skills were able to read passages aloud more accurately than they could understand them.
- Those participants whose test results showed they were literate in terms of survival reading skills had writing skills at the low primary level.
- There was a general lack of awareness about the conventions of written expression.
- Many participants had the necessary reading and spelling prerequisite skills, but had not learnt about grammar, punctuation, and the genre of story writing.
- Numeration skills were generally at a lower level than reading skills.
- Time telling skills of the participants in one study were functionally adequate.
- Money handling skills were poor.
- The adults in one study were aware of the literacy skills needed by them in their daily life, and they were keen to continue their education.
- Motivation and interest levels were high with participants in all studies and special projects. (Although some respondents to the questionnaires indicated that some clients lacked motivation.)
- In work place and workshop settings adults with intellectual disabilities often chose to pursue literacy education, even when other leisure pursuits were also offered.
- Increased literacy skills led to subsequent positive effects on self-esteem, confidence and motivation which were reflected in the work setting.
- One group of participants in one of the special projects could match pictures of most common objects, could match words of up to five letters, and could recognize their own names in writing. Many could read and follow a line of instruction and could recognize and pick out labels, and trade names.
- The majority of the above group could hold a pencil, copy letters and write their first and last names independently. Many could also write simple sentences of four or more words. Copying was more commonly observed than independent writing.
- A second group in this special project were able to match words, recognize their own name, recognize labels and trade names, recognize and act appropriately to social sight vocabulary, and recognize five to ten sight words. This group could all copy letters, words, and sentences. They could also write their first and last names independently, and write their address and phone number independently.

- Students with intellectual disabilities attending a Community College in one of our special projects displayed wide variations in intellectual ability, communication, social skills, self-confidence and self-esteem, and life experience.
- Wide variations in these students' literacy skills were observed. Some students experienced less difficulty, while some exhibited negative reactions to any printed material.
- All students in this special project required assistance in the preparation of college assignments and showed a lack of, or limited conceptualization skills.
- Students with a severe communication impairment and severe/profound intellectual disability in one of the special projects displayed a right hand dominance, used central gaze, and had difficulty completing simple motor imitation tasks (speech and upper limb).
- Through the use of Facilitated Communication 9 out of 20 of these students showed literacy skills in that they were able to touch a sequence of letters to construct appropriate words or sentences to answer questions or make comments where the facilitator was unaware of the appropriate response.
- In another special project 12 adults with a moderate or a severe intellectual disability showed a wide variety of abilities. For example, one adult was able to recognize approximately 350 rebus symbols (that is, geometric or pictographic forms which represent entire words or parts of words) and approximately 30 commonly occuring words, while another individual could recognize 10 rebuses and responded using pointing signs and 4 or 5 symbols at the beginning of the study.
- The literature indicated that young adults with intellectual disabilities do understand that text conveys a message, and that reading and writing are used to communicate (Farrell, 1990).
- Research indicates that individuals with intellectual disabilities develop reading competencies more slowly, but in the same general sequence as do all learners (Blanton, Semmel, & Rhodes, 1987; Farrell, 1990).
- The abilities of students and their responses to learning tasks will also be influenced by their existing knowledge base, their motivation, the skill of the teacher, the relevance of the topic and other factors.
- What is obvious from the studies and special projects included in this Report are the wide individual differences in the abilities of people with intellectual disabilities. This individual variability needs to be taken into account when making provisions for literacy courses, and for planning and implementing programmes.
- Multiple factors (the learning context, materials, individual characteristics, teacher's skills and attitudes) need to be taken into account when developing programmes for adults with intellectual disabilities.

Needs

In order for adults with intellectual disabilities to attend and participate successfully in literacy courses a number of their needs must be met. Failure to meet these needs will mean that adults with intellectual disabilities will be less likely to attend courses, or where they participate in courses, the courses will not be as effective as could be for the learners. In this section the needs identified in the course of this Project by us or by others speaking or writing to us are described. Later in the **Recommendations** section several of these needs have been reworked as specific recommendations.

- Courses need to be located in areas where individuals with intellectual disabilities live.

- Access to appropriate programmes is essential. Assistance with transport must be considered.
- Links between schools and the TAFE sector need to be enhanced, in particular transition planning needs to be part of assisting students move from school to training/work (Andrews, 1991).
- Support services (e.g., personal counselling) for students with intellectual disabilities are necessary.
- Students with intellectual disabilities need to have their individual needs identified.
- The review of the literature indicated that adults with intellectual disabilities wanted to engage in literacy pursuits that were not just functional in nature (Watson, 1988).
- Similar to Watson's (1988) findings, the study of the literacy competencies of the representative group in this Report indicated the individuals with intellectual disabilities were more interested in book reading than in any functional reading.
- Appropriate campus resource facilities are required to give academic and social support.
- Social facilities that promote inclusion of students with intellectual disabilities are necessary.
- Network and information centres are required as referral and support structures.
- Class times need to be flexible to suit the lifestyles of adults with intellectual disabilities.
- Adults with intellectual disabilities require assistance with the acquisition of social skills and increased confidence in order to combat social isolation and negative attitudes from others.
- Teachers and students require assistance in understanding and developing acceptance of and positive attitudes towards students with intellectual disabilities.
- Negative feelings by students who learn alongside students with intellectual disabilities will need to be tackled.
- The social reality of integration and inclusion may not be as healthy as statements of intent or policy statements indicate. One of our special projects noted a "social divide" between the students with and without disabilities in the College and in the classroom. There were few examples of voluntary assistance, and some cases of intolerance and prejudice. There is therefore a very real need to devise situations and create circumstances that facilitate increased social interaction amongst students. Social activities, classes that focus particularly on the development of social skills, understanding, and more tolerant attitudes in which both groups of students participate (e.g., Human Relationships courses), the use of peer assistance in learning situations, networking and advocacy activities by the students with disabilities will all facilitate interaction. We believe that TAFEs in particular will have to play a more active role in removing the isolation and confronting the barriers faced by an increasing number of students with intellectual disabilities as they are integrated into teaching and work place settings.

Assessment and Teaching of Adults with Moderate and Severe Intellectual Disabilities

- Our Project indicates that individuals with moderate and severe intellectual disabilities frequently receive no instruction in literacy and/or communication.

- One of the special projects reports here on the use of Facilitated Communication to assess individual literacy competency at 1 of four levels: from matching and copy typing (level 1) to open conversation (level 4). The authors of this special project suggest evidence indicates that for some students meaningful communication can be assessed using this technique.
- A long term study of the use of Facilitated Communication is currently underway that will provide evidence about the use of this technique with adults with intellectual disabilities.
- The authors of this special project argue that a team approach should be taken to the training of literacy skills for this group of students. Thus speech therapists, occupational therapists and teachers of adult literacy would be involved.
- The use of a team approach, especially involving care givers and therapists has also been advocated by the author of the Tutor Training Program described in this Report. Our project suggests that a team approach is particularly important for people with moderate and severe intellectual disabilities.
- Another project described how literacy skills of adults with moderate and severe intellectual disabilities could be acquired using print enhanced rebuses, within the context of a whole language approach to literacy learning.
- The project reported on the use of rebuses in conjunction with print. After a period of time the rebuses were faded by reducing their size.
- While the results of this special project are variable for different individuals participating, all participants did complete tasks that they would have been unable to do had these tasks been presented in print alone.
- The authors suggest that the changing focus of TAFE colleges from educational to vocational environments will exclude many individuals with moderate and severe disabilities from the setting. This is of extreme concern.
- From this Project it is clear adults with moderate and severe intellectual disabilities can be assisted in developing literacy skills. A greater emphasis on the provision and implementation of programmes for these individuals is necessary. In addition, where programmes are in place these need to be carefully documented. Finally, this is an area where empirical studies are required.

Programmes and Teaching

Accessing courses

- Self-referral was the most prevalent manner in which individuals were referred to literacy courses for students with intellectual disabilities. Although a large number of people were often also involved in referring individuals to courses. Two points can be made here: individuals with intellectual disabilities appear to have high motivation to attend literacy courses, and knowledge of the existence of courses needs to be spread widely to allow referrals to be made by a number of people coming into contact with individuals with intellectual disabilities.

Liaison about programmes home, work and education sites

- Two of the special projects referred to the need for cooperation between the teaching site (e.g., TAFE), the workplace and the home. Thus, each context should be aware of the content, skills and attitudes being developed in the literacy programme so that they can be reinforced at each site.
- One study that examined the literacy abilities of adults with intellectual disabilities found that continuing and on-going education for adults with intellectual

disabilities were seen as important by workshop managers, supervisors, parents and carers.

- However, opinions differed whether the workplace should be the site for on-going literacy education, and whether training should occur during work hours.
- For literacy skills and new behaviours to be acquired and learned it is necessary for them to be practiced and reinforced in numerous contexts. Issues of where and when literacy learning should occur need to be resolved.

The nature of programmes

- Student needs should be identified in order that skills and curriculum goals can be determined.
- The curriculum should be relevant to the learners' everyday environments.
- The above two statements reflect the dominant and stated premise underlying all of the courses reported on in our questionnaire surveys. Nearly all programmes featured a student-centred focus, based on individual needs.
- Many respondents also stated that their programmes focused on functional literacy.
- An examination of the literature also shows that many programmes are linked only to "functional" aspects of literacy.
- The trend to functionalism is seen as being linked to the upsurge of programmes related to vocational education. This trend is evident in the literature and also in the responses to our questionnaire surveys.
- However, the emphasis on functionalism, we argue, leads to the relative neglect of those aspects of literacy education that do not seem to yield immediate functional outcomes.
- Other problems with programmes that emphasize functional literacy include: they are often narrow in their curriculum focus, they mistakenly trap the teacher and learner into the teaching and learning of skills that are arbitrarily thought to lead to an improvement in social integration, or an increase in job opportunities (Lankshear, 1985) and they often describe skills as "necessary", without recognizing that it is impossible to determine what is necessary for an individual (Levine, 1982).
- A final danger of the functional approach is that it implicitly devalues those activities that are not seen as having a functional outcome. Thus literacy activities for personal, social, recreation and leisure are devalued and not emphasized.
- While the emphasis on designing programmes which respond to individual student needs is laudable and "sounds good in theory" there is a lack of knowledge about the individual needs of adults with intellectual disabilities and their interests. Research is needed in this area.
- In addition, while reference to "individual needs" was made very frequently, we saw very little evidence of student input into the development of courses, the sequence of learning or student choice and decision-making. Indeed, one special project indicated the difficulty or reluctance of tutors/ teachers to involve clients as autonomous learners.
- It is suggested in both the theoretical and teaching/intervention literature that approaches that develop students' autonomy and have them participate as equals in the learning process are needed. This premise, however, has to be practiced and actualized, and not just espoused by teachers and tutors.

Programme planning

- The literature indicates that there is a need for curriculum planning for this population. Programmes that are well-organized and goal-directed are essential.
- Our findings indicated that few respondents followed a planned curriculum. The lack of planning and a curriculum designed should be of concern. Where a planned curriculum was followed most respondents indicated they had designed the programme themselves.
- We argue that programmes must be differentiated for specific individuals with intellectual disabilities. This allows the characteristics of individuals to be linked to emphases or content in various programmes.
- In order to establish individual needs and to plan an appropriate curriculum and literacy programme, adults with intellectual disabilities must be assessed.
- The use of multiple assessment techniques is necessary. It is inappropriate to rely on one or two tests to establish literacy abilities.
- Furthermore, monitoring of student progress and the outcomes of literacy programmes are essential.
- Our findings indicate that while assessment prior to course entry, during the course and on course completion was undertaken, the assessment practices lacked rigour. In addition, assessment practices were frequently absent in mainstream literacy courses which students with intellectual disabilities may attend.
- We would argue that there is much to be improved in the area of literacy assessment prior to, during and following literacy courses.

Programme content

- Adult learners require an integrated curriculum.
- Programmes must include all of the language arts and numeracy, with links being made between the different domains.
- Integration of speaking, listening, reading, writing, and numeracy was followed in the majority of programmes described by the respondents to our questionnaire surveys.
- Instruction of adults with intellectual disabilities must take into account the broad range of literacy skills of individuals.
- Programmes must incorporate a range of strategies.
- Instruction of adults with intellectual disabilities must take into account that poor general language skills may accompany poor literacy skills.
- Programmes should include the development of:
  - phonemic awareness
  - sight word knowledge
  - the use of pictures (for some readers)
  - vocabulary
  - comprehension strategies (e.g., rereading, prediction, self-correction, monitoring meaning, scanning)
- Programmes should include the development of writing skills. These should include:
  - awareness of the conventions of written expression
  - awareness of grammar/syntax
  - using sound to print and analogy for translating verbal sounds to print

  - punctuation
  - knowledge of a range of genres
  - rereading text
- Money handling skills need to be taught, alongside time-telling skills.
- Numeration skills need to be developed.

Teaching approaches

- Based on the findings of Farrell and Elkins (1991) we suggest that instruction of adults with intellectual disabilities should take into account what is known about effective literacy instruction for "ordinary" adult learners.
- It appears that students with intellectual disabilities benefit from similar teaching approaches to those used with students with learning disabilities and other adult learners.
- This Project found that the whole language approach was the predominant teaching approach used by teachers/tutors. The second most frequent response about teaching approach was an "eclectic" approach, combining skills teaching, genre and theme approaches.
- The literature indicates that reading approaches which combine phonic and whole-word approaches in meaningful situations are thought to be most effective.
- Other findings from the literature suggest that:
  - direct instruction appears to be successful
  - teaching methods that employ scaffolding, cognitive strategies, and compensatory devices appear successful in literacy and numeracy teaching
- Techniques such as language experience, shared reading, using visual mnemonics to remember letter names, free retelling following reading, and discussion following reading have been advocated (Farrell & Elkins, 1991).
- The special project located in a community college suggested that where individuals with intellectual disabilities are learning in integrated settings a number of strategies should be used to enhance student learning.

  In task oriented situations it was suggested that:
  - students be directed towards single or simple tasks
  - tasks should be appropriate to the students abilities and levels
  - more complex tasks should be structured in a short logical sequence
  - tasks should be clearly defined and explained
  - tasks should be demonstrated/modelled
  - following demonstration students should perform the task under supervision one or more times
  - repetition of verbal-responses and reinstruction by the teacher is often necessary
  - refocussing should be used to counteract distractability and a short attention span
  - monitoring student progress during the task through asking the students how they are coping or asking whether they require assistance is an effective strategy
  - peer tutoring can be an appropriate teaching technique, as well as providing support
  - Prompts and questions to assist students in developing self-monitoring or self-regulatory behaviours can be effective.

In literacy based situations it was suggested that:

- prereading discussion was effective in establishing context and outlining content
- materials need to use simple language, the use of simplified text material is advocated
- material should be organized into segments and feature headings and subheadings
- diagrams placed alongside and used to illustrate written prose were viewed as helpful
- relating content of printed material to reality-based examples was effective
- self-paced units of work should be considered
- the modification of course requirements and levels of achievement is often necessary
- clear explanation and instruction about the responses required are necessary
- repetition of one response pattern for some time may be more appropriate than a different manner of responding each time
- exercises should be of short duration
- teachers and tutors should avoid teacher reading or teacher dictation, especially of theoretical or conceptual material
- regular repetition of similar exercises is necessary
- small steps in the sequence of material from simple to more complex is essential
- peer tutoring (especially pairing a student with higher ability with the student with intellectual disabilities) may be effective. However, both individuals must be willing to participate in the pairing
- reduced class size allowed for more or increased individual attention of students with disabilities
- assignment formats that required simple responses and direct retrieval of material from texts was easier for students than formats requiring an interpretation of text
- assignment questions that were segmented or had a definite structure assisted students
- an effective strategy in assignment preparation was to assist students to form an interpretation of text material read by the students or read to them, and to use the interpretation to form the assignment response.

- For adults with intellectual disabilities practice and repeated practice which provide opportunities for overlearning to occur should be essential elements of programmes.
- While the findings of this Report provide some initial and global information about the nature of the courses provided, it became very apparent that there are wide interpretations of such items as "whole language", "integrated curriculum", "individual-needs based learning", and the like. Further, detailed study of actual practices are required. Teachers need to be actively encouraged to document their teaching philosophies and teaching practices. In addition, research is needed to examine curriculum design, lesson planning and implementation, and assessment. Studies of the relationship between teacher beliefs, and teaching philosophies and teaching practice are required.

Literacy Materials

- There is a dearth of appropriate published materials for teaching and for recreational reading for the target group.

- The literature indicates that frequently individuals with intellectual disabilities are instructed using text material that is too difficult for them.
- There have been calls for Australia to develop "Easy to Read" and alternative-format materials. There needs to be some direct and sustained activity in developing and publishing "Easy to Read" and alternative-format materials in this country.
- Easy to read and alternative-formats need to take account of factors such as content, readability, design and publication.
- In promoting the publication of materials for individuals with intellectual disabilities consultation should be promoted with publishers, librarians, teachers, advocates, and adults with intellectual disabilities.
- There also needs to be some exploration of the development of a newspaper which could be read by adults with intellectual disabilities. A newspaper would allow the target group access to local and world current events.
- Little is known about the reading interests of adults with intellectual disabilities. Research in this area would mean that the contents of new publications for this group could be selected on the basis of empirical data.
- The results of our questionnaire surveys indicate that teachers rely heavily on teacher-made materials for instruction. This suggests a lack of appropriate teaching resources.
- Indeed a number of respondents discussed the need for appropriate resources. An example is reported here: "... more adult material at a basic level needs to be developed".
- A more indepth and comprehensive documentation and evaluation of the literacy materials available for individuals with intellectual disabilities is needed. An examination of the availability and quality of existing materials is required.

Technology

- Over 50% of respondents indicated that computer technology was employed in the literacy programmes for adult learners. However, the exact nature of the pupils' engagement with computers, the frequency, and the effectiveness of the learning were not established.
- The research literature reviewed for this Project indicates that there is little conclusive evidence regarding the effectiveness of different computer applications in learning situations. There is no research evidence about the value of the use of computer technology in literacy learning programmes for adults with intellectual disabilities. There is a need for empirical studies in this area.
- Greater clarity in identifying what types or genres of software are being used in literacy programmes is necessary.
- Results of our questionnaire surveys indicate that many teachers in the tertiary education sector are using mainstream software, which on occasions is adapted to meet the clients' needs more closely.
- In developing and selecting effective literacy programmes it is essential that teachers know what software and hardware is available, what the educational/ curriculum objectives are, and know the individual needs of the adult with intellectual disabilities.

Teachers and staffing

- The majority of literacy courses had paid staff, usually with one staff member per course, who typically described themselves as "teachers".
- Just over half the respondents in our "Current Skills and Training Questionnaire" indicated they were in full-time positions, mostly in paid employment. These teachers were predominantly employed as permanent staff.
- The majority of respondents were female, with most aged 36 and older.
- A wide range of qualifications were held, although general teaching qualifications at the Bachelor's degree level predominated, obtained from either a university or (former) College of Advanced Education.
- Few respondents indicated that their training had included issues concerned with teaching individuals with intellectual disabilities. Andrews (1991) has reported a shortfall of trained staff to deliver programmes to adults with intellectual disabilities.
- The majority of respondents indicated their qualifications included a significant component concerned with literacy.
- Two-thirds of respondents indicated their qualifications included a significant component in curriculum design.
- The number of teachers who indicated a lack of or little content knowledge about disabilities and appropriate teaching techniques for this group are a concern.
- A number of respondents also commented about preservice and inservice training. In particular, there appeared to be a need for the upgrading of skills through inservice or staff development.
- It is evident that teachers need to have a number of qualities to work effectively with adults with intellectual disabilities. Respondents to the questionnaires, the special projects, and the review of the literature pointed to the need for the following characteristics:
    - ~ a positive attitude
    - ~ good communication skills
    - ~ patience
    - ~ empathy
    - ~ acceptance
    - ~ teamwork
    - ~ negotiation skills.
- It is clear that teachers also need to have particular knowledge and skills. This project identified two main areas where knowledge and skills need to be obtained:
    - ~ knowledge and theory of teaching/learning, and
    - ~ knowledge of intellectual disabilities.
- Teachers and trainers should be encouraged to articulate their beliefs, attitudes, perceptions and preconceived ideas about adults with intellectual disabilities during their training, so that these can be acknowledged.
- Training packages for tutors such as *Moving from Strength to Strength* contain teaching modules that can be used to develop literacy programmes for adults with intellectual disabilities. However, most packages do not include suggestions which relate to the teaching of students with intellectual disabilities.
- One of the special projects described in detail in this *Report is a Tutor Training Program for Caregivers and Supervisors of Adults with Moderate and Severe Intellectual Disabilities*.

- Components of this training programme that could be considered key are:
  - caregivers and supervisors should be involved in literacy training
  - caregivers are seen as facilitators and enablers
  - adults with intellectual disabilities should be actively encouraged to control communication
  - teaching involves explicit modelling
  - the programme is based on individual needs with the primary goal of enhancing the individual's ability to live "well" in the community.
- The Tutor Training Course was evaluated for its effectiveness based on several criteria by the author. We believe that both its content and training approach may be a model for others.

Funding

- Funding for courses was predominantly provided by DEET and corresponding state departments such as DEVETIR in Queensland, although a small proportion of courses were funded from other unspecified Commonwealth funds.
- Many of the courses specifically for individuals with intellectual disabilities were in their first year of operation, and the majority of respondents expressed concern about the ongoing funding for their courses.
- The need for funding, not only to provide literacy education for the target groups, but also to assist teachers/tutors with preservice and inservice training was a concern expressed by several respondents.
- The lack of knowledge about whether funding would be ongoing caused some anxiety in respondents. This lack of ongoing commitment to funding meant that service providers were not able to plan or make long term, future goals.
- It was apparent from responses to our questionnaire surveys that some literacy programmes that have existed in previous years were no longer in operation. A chief reason given for this state of affairs was the requirement that many of the literacy programmes could only get funded if they were associated with prevocational or vocational outcomes.
- Many other respondents also described disquiet at the trend of literacy programmes only being offered in the context of prevocational and/or vocational courses.
- Several respondents viewed this "tagging" of courses/funding mainly to vocational outcomes to be negative and prohibitive in providing appropriate literacy programmes for adults with intellectual disabilities.

ISSUES AND CONCLUSIONS

Christa van Kraayenoord, John Elkins and Pat Gunn

The right to literacy learning in this Report has been seen as a human rights and equity issue, as well as a quality of life issue. It is argued that all individuals in a society have the right to literacy learning throughout their lives. This includes people with intellectual disabilities. It is believed that literacy learning will enhance the quality of life and therefore access to literacy learning is essential for adults with intellectual disabilities.

Technical and Further Education Colleges are the main provider of adult literacy instruction in this country, however the population with intellectual disabilities whom they serve is limited to adults with "mild" intellectual disabilities. Therefore, adults with "moderate" and "severe" intellectual disabilities do not typically appear to be receiving literacy and communication training from this service provider. In addition, only in very rare circumstances does this group appear to be receiving literacy education from other providers. This is an issue that must be addressed.

It is also a fallacy to believe that many individuals with intellectual disabilities are receiving literacy services from sources in the community. Rather, where community groups or non-government agencies indicate they are providing services they are frequently doing so via the TAFE sector. It is argued here that the range of literacy service deliverers for adults with intellectual disabilities should be broadened.

Where courses are begun there is an urgent need for an ongoing commitment to funding. Of all the concerns expressed to the authors of this Report by services providers around this country there was no greater and more pressing call than this one of continuous funding. For individuals with intellectual disabilities the need for continuity and regularity of instruction is essential.

In establishing courses for adults with intellectual disabilities attention must be paid to the provision of support services. These include physical amenities, transport, social supports, personnel and suitable materials. Without these support services the success of instructional programmes for this group will be jeopardized.

It became apparent while conducting this Project that very little has been written about the literacy abilities and needs of adults with intellectual disabilities. While this Project has made a small contribution in beginning to document the literacy knowledge and skills, and attitudes towards literacy of this population, much more needs to be done. In particular, service providers and researchers need to be jointly involved in the further documentation of the literacy competencies of adults with intellectual disabilities across a variety of settings.

Furthermore, teachers and tutors of adults with intellectual disabilities should be encouraged to report in written form their assessment and teaching approaches.

This Project has described the nature of programmes, content, and teaching approaches that are currently being used with adults with intellectual disabilities. We believe that many of the teaching approaches may be "best practice". However, their efficacy has not been researched. This is urgently needed so that knowledge about the effectiveness of teaching methodology can be disseminated.

The lack of appropriate teaching materials and alternative-format material in Australia for this group is a concern. Without appropriate literacy materials individuals with intellectual disabilities will continue to be disadvantaged in literacy education and in their pursuit of recreation and leisure activities that involve printed and verbal material.

There appears to be a lack of qualified teachers and/or of teachers having knowledge of learning theories as they apply to individual differences or with knowledge about learners with intellectual disabilities. Preservice education and inservice or professional development needs to ensure that teachers and tutors working with individuals with intellectual disabilities know and feel they are competent to meet their students needs.

The inclusion of adults with intellectual disabilities into all aspects of life in the community will only come about by a greater awareness of citizens of Australia to the rights of these individuals and by breaking down of prejudice, intolerance and stereotypical thinking. Public campaigns in the media and courses, instructional practices, and explicitly stated policies in government departments, teaching institutions, and service agencies that foster tolerance and promote the rights of all people with disabilities should be extended.

Finally, the International Literacy Year provided funding for this much needed initial study of the literacy provision and needs of adults with intellectual disabilities. We hope that the production of this Report does not mask the true picture of literacy provision for adults with intellectual disabilities. We believe the true picture is one of neglect. Such neglect should not be accepted in Australian society. We believe that positive action on the Recommendations that emerge from this Project will come some way to addressing the neglect. Our Recommendations are, therefore, aimed at promoting positive action for adults with intellectual disabilities.

RECOMMENDATIONS

Christa van Kraayenoord, John Elkins and Pat Gunn

The following recommendations are made to the Literacy and ESL Section, Department of Employment, Education and Training, Canberra.

Literacy: Quality of Life

We endorse the aim of International Literacy Year to enhance the quality of life of all Australia's citizens, including adults with intellectual disabilities and take literally the statement that "all Australians should develop and maintain effective literacy in English to enable them to participate effectively in society" (Dawkins, 1991, p. 4). We believe that the literacy needs of this group have been neglected and such neglect should not be accepted.

1. Provision

It is recommended that:

1.1 • TAFE colleges act on their commitment to educate students with disabilities by demonstrating in policies and practices that commitment to all students with disabilities, irrespective of severity.

1.2 • The range of service providers be broadened to include more non-governmental agencies and community services, including work and home-sites.

1.3 • Literacy provision for adults with intellectual disabilities in rural areas must be developed. This is a matter of great urgency.

1.4 • The educational nature of literacy courses particularly in the TAFE sector be protected, so that individuals with intellectual disabilities are not disadvantaged by too great a focus on vocational preparation.

1.5 • Programmes should be developed that meet the needs of adults with intellectual disabilities beyond vocational needs, for example:

- ~ to equip them to be effective consumers or members of consultative committees for the various services provided,
- ~ to enable them to keep informed about recreational or accommodation options,
- ~ for relaxation and personal enjoyment,
- ~ to further their knowledge of people and places, and to add to their social skills (that is, provide topics for discussion with others).

1.6 • Close monitoring needs to occur at those TAFE sites where literacy training for Skillshare and CES is provided. A study of the liaison and follow-up would be timely. Related to this should be an investigation of the assessments undertaken by TAFE and other agencies for Skillshare and CES. This investigation should examine the nature of the assessments, their relationship to client placement, and outcomes of placement.

1.7 • Research be undertaken into the number of individuals and provisions for adults with intellectual disabilities in correctional institutions in this country. Where so-called "prisoners with intellectual disabilities" are participating in Basic Education programmes, particularly via correspondence this practice and its effectiveness should be studied.

2 Adult Learners with Intellectual Disabilities

It is recommended that:

2.1 • The *abilities* of individuals with intellectual disabilities be acknowledged by teachers, caregivers, literacy service providers, parents and the community.

2.2 • Individual variability in abilities and needs be taken into account when planning and implementing literacy courses for adults with intellectual disabilities. Needs may include assistance with access, transport, transition planning, academic and social support services, timetabling, and social skill development.

2.3 • Positive attitudes and interaction of fellow students and teachers be fostered, to overcome stereotypes, prejudice and intolerance. Courses that examine these issues may need to be part of institutions where individuals with intellectual disabilities are being integrated.

3 Assessment and Teaching of Adults with Moderate and Severe Intellectual Disabilities

Every recommendation that is made in the **Recommendations** section applies to all adults with intellectual disabilities. However it was felt necessary to call special attention to the neglect in terms of knowledge about and provision for adults with moderate and severe intellectual disabilities.

Therefore it is recommended that:

3.1 • Special research funding be directed to identifying the communication/literacy needs of adults with moderate and severe intellectual disabilities, and to develop appropriate programmes.

3.2 • Greater efforts be undertaken by the TAFE sector to develop courses for students with moderate and severe intellectual disabilities.

3.3 • A reexamination of policies that tag programmes solely to vocational outcomes be undertaken. Such policies discriminate against students with moderate and severe intellectual disabilities.

4 Programmes and Teaching

It is recommended that:

4.1 • A national data base and network of adult literacy programmes for adults with intellectual disabilities be established. A key task would be to disseminate information about those teaching methods and programmes that are currently being developed.

4.2 • Further research be undertaken to identify programmes for adults with a range of intellectual abilities. Appropriate efficacy studies be undertaken of new and current programmes. There is a need for rich single case study research designs and for studies of groups employing random group designs.

4.3 • Research is also needed to investigate issues of congruency between teacher beliefs and philosophy and practices, student perceptions, assessment, and the effectiveness of instructional approaches.

4.4 • Courses focus not only on "functional" literacy, but include assisting participants to acquire literacy skills for recreational and leisure activities.

4.5 • Courses need to be planned, and not reliant on ad hoc evolution.

4.6 • Basic education courses and adult literacy courses be examined for their suitability for adults with intellectual disabilities.

4.7 • Courses need to have assessment practices that are rigorous and meaningful, and not only linked to vocational outcomes.

Further recommendations about accessing courses, liaison between literacy learning sites, the nature of programmes, programme planning, programme content, and teaching approaches have been made in the **Executive Summary** in the section **Programmes and Teaching.**

5 Literacy Materials

It is recommended that:

5.1 • A comprehensive documentation and evaluation of the literacy materials available for individuals with intellectual disabilities be undertaken. Statements about availability, quality of materials, and their potential contextualized use with specific client groups be included.

5.2 • An 'Easy to Read' (ER) Task Force be established that would investigate matters relating to the ER concept in Australia (as outlined in *The Right to Read, 1991, and Library Services for the Disabled, 1991*).

5.3 • The Easy to Read Task Force examine innovative solutions to the publishing of ER materials.

5.4 • Funding be allocated to enterprises willing to produce materials in alternative formats.

5.5 • A project supporting the development of a newspaper appropriate for adults with intellectual disabilities be established. For this project it is suggested that

  (1) Funding should be made available to publish a newspaper on a trial basis for people with disabilities.

  (2) The population of Australia is such that a national, rather than state, approach is essential. This applies to all aspects of the project, including funding.

  (3) Even in the embryonic stages it is essential that the planning group includes editorial, consumer and publisher representatives.

  (4) An initial step in achieving (1) will be to ascertain the numbers and needs of the target groups. This will require cooperation on a state and national level, and it is therefore suggested that the National Library may be the most appropriate agency to initiate, monitor, and evaluate the project.

5.6 • Researchers investigate the literacy interests and habits of adults with intellectual disabilities and that their findings be associated with the key features of publishing material for this group (i.e., content, readability, design and publication).

5.7 • The alternative formats such as taped-books etc. with adults with intellectual disabilities need to be investigated. Information about the availability of these alternative formats must be dispersed more widely, and their access be enhanced.

6 Computer Technology

It is recommended that:

6.1 • Empirical research is needed in the application of computer technology to literacy programmes for adults with intellectual disabilities.

6.2 • An agency with suitable expertise should be charged with the task of collecting data on current service provision in the area of technology and materials for individuals with intellectual disabilities.

6.3 • This data collection phase should be followed by a report to the software industry, and Government, inter-government, inter-departmental, and non-government agencies which may have an interest in embarking on the provision of material for which there is a documented need.

6.4 • If viable projects can be identified, one of the above groups (or a combination of several) should undertake to produce either finished computer packages, or prototypes and then market the software throughout Australia and internationally where possible.

7 Recruitment of teachers and tutors

It is recommended that:

7.1 • A campaign be developed to attract more people, including those already qualified as teachers to the career of adult literacy teaching.

7.2 • Teachers for adult literacy courses continue to be recruited from a wide variety of backgrounds. In addition, attention should be paid to attracting residential care workers, supervisors, house parents and volunteer friends to training and/or participating as teachers and tutors.

8 Preservice Education and Training

It is recommended that:

8.1 • All individuals undertaking degrees and diplomas in teaching should be required to develop competencies in dealing with the needs of all groups of learners. This is in line with recent recommendations from *Teaching English Literacy: A Project of National Significance on the Preservice Preparation of Teachers to Teach English Literacy*, (Christie, 1991). Teachers then would be required to be competent in teaching individuals with intellectual disabilities.

9 Inservice Education or Staff Development

It is recommended that:

9.1 • Inservice education or staff development for teachers in adult literacy courses be developed that include content related specifically to adults with intellectual disabilities and learning theory and methods related to individual differences.

9.2 • Inservice education or staff development be made mandatory and be attached to salary awards.

9.3 • Inservice education or staff development in this area needs to be part of an ongoing regular acquisition of knowledge, skills and attitudes.

9.4 • The skills associated with "action research" and "teacher as researcher" be incorporated into staff development programmes.

9.5 • Paid study leave be considered for teachers wishing to upgrade their qualifications in this area.

10 Tutor Training (Preservice or Inservice Education)

It is recommended that:

10.1 • Within the framework for an Adult Literacy Tutor Training Programme, an elective module, in Literacy for Adults with Intellectual Disabilities, be written. Such a module would have as its prerequisite a core module focusing on the theories and beliefs underpinning Adult Literacy programme provision.

10.2 • Such an elective module (as noted above), be compulsory in the training programmes of adult literacy teachers, and be integrated into the training programmes for caregivers/supervisors of adults with intellectual disabilities.

10.3 • The tutor training programme such as the one described in a special project of this Report be trialled in a variety of contexts. Such contexts may range from Special Schools, the preservice training of teachers and caregivers, and to parents of children and adults with intellectual disabilities.

10.4 • Training programmes should focus on the development of teachers as autonomous facilitators of literacy learning.

11 Public Awareness

It is recommended that:

11.1 • Literacy awareness campaigns include examples of adults with intellectual disabilities engaged in literacy activities.

11.2 • Campaigns and courses within Colleges, and other educational and vocational institutions should also focus on the development of positive attitudes towards individuals with intellectual disability.

11.3 • Campaigns need to operate at regional and local levels, in order that the literacy needs of adults with intellectual disabilities can be met in rural as well as urban areas. This may involve the active involvement of local library staff.

11.4 • Parents and caregivers be provided with information about the literacy abilities and needs of adults with intellectual disabilities and be encouraged to make use of programmes and library services.

11.5 • Schools may also need to be aware that literacy instruction is an important component of the education of adolescents with intellectual disabilities. A focus on work or independent living experiences should not be allowed to exhaust the time available for literacy and numeracy activities during schooling.

11.6 • Library staff be encouraged to become aware of the communication difficulties, the support needs, and possible problems of access for people with intellectual disabilities.

12 Funding

It is recommended that:

12.1 • A national policy on the funding of literacy courses for people with intellectual disabilities be developed. (This policy could be similar to the Statement in the White Paper that led to funding for literacy provision for some groups, but not those with disabilities).

12.2 • Funding be approved for literacy programmes that meet the needs of adults with intellectual disabilities beyond their prevocational or vocational needs.

12.3 • Additional funding, that is, incentives, be provided to agencies and services who provide programmes, including literacy programmes, which integrate people with intellectual disabilities into mainstream programmes.

12.4 • Literacy in the workplace funding be extended to sheltered employment.

12.5 • Funding be recurrent for effective programmes.

12.6 • Funding be provided to assist teachers/tutors with preservice and inservice training.

VOLUME 2

REVIEWS, STUDIES AND QUESTIONNAIRE SURVEYS AND SPECIAL PROJECTS

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OVERVIEW OF VOLUME 2

Volume 2 comprises two broad sections. The first section contains the literature reviews. These reviews examine the definitions used, a description of the population who are the major concern of this project, and provide a historical context for the study. Reviews have also been undertaken examining the factors affecting the learning of adults with disabilities, and the approaches used in teaching literacy to adults with intellectual disabilities. An examination of the issue of reading materials for leisure and recreation in particular, and of the use of technology in adult literacy programmes for people with intellectual disabilities completes the first section.

Section two comprises the studies or projects undertaken. The first study investigates the literacy skills and needs of a sample of adults with intellectual disabilities in their work settings. The second section also contains the results of the six surveys which explored issues in literacy teaching for adults with intellectual disabilities. Finally, 5 project reports are presented. Four of the reports describe literacy services to people with intellectual disabilities. One of the projects describes a tutor training programme.

Each chapter concludes with a summary. Conclusions, issues and recommendations that emerge from these summaries appear in Volume 1. Readers are encouraged to examine Volume 1 of the Final Report.

REVIEWS

BACKGROUND AND LITERATURE REVIEW

Suzie O'Hagan

Introduction

Compiling background material for a study about literacy and adults with intellectual disabilities is difficult. This is because little has been written about the literacy needs and/or abilities of this group. Published research studies are also lacking, although there are a few unpublished theses and dissertations. The initial searching for literature for this study involved online searching of the following databases: ERIC, AEI, APAIS, PSYCLIT, FAMILY, SOCIOFILE, LISA and EDLINE. Little writing has been undertaken in Australia that has focused specifically on the literacy learning of adults with intellectual disabilities. As an example of the paucity of research data, the *Australian Adult Basic Education Research Database* was established in 1990, and is continually updated as new research articles become available (Ryan, 1990). In 1992 this database contained 167 records, but only one of these referred to students with disabilities, and that focussed on literacy and numeracy provision for adults with acquired dysphasia.

In determining which literature should be included in this review decisions were made about whether or not information should be included about reading and writing acquisition and development of children and adolescents, about children with intellectual disabilities, and about adults without intellectual disabilities based on the assumption that information from these areas could be or should be applied to adults with intellectual disabilities. For example, there is a rapidly growing body of research relating to the use of computers in teaching children to read, and indeed, some mention in the literature of the issues relating to computers and children with intellectual disabilities. However, there is no equivalent research if the target group is adults with intellectual disabilities as opposed to children. The question then arises as to whether such research should be included and can legitimately be said to have a genuine relevance to the adult learner with intellectual disabilities.

The literature review that follows has taken a pragmatic approach to this problem. Wherever possible, research which focuses on this project's target group (i.e., the adult learner with intellectual disabilities) has been discussed. In the absence of such research, other material which can clearly be seen to have relevance is included, and mention made of the rationale for its inclusion.

Definition of terms

Definitions of the term "literacy" have changed significantly over the past forty years, and there is no single definition that has achieved universal acceptance. The purpose of this review is not to provide a detailed analysis of the current debate about literacy definitions, but rather to provide a context for the research which was undertaken. What follows, therefore, is a brief outline of some of the key terms that have been used and a rationale for the definition of literacy which was adopted for the purposes of this project.

Cook (1977) noted that in 1900 the USA Census Bureau defined a literate person as anyone over 10 years of age who could read and write in his or her native language. This type of definition, which viewed literacy as a narrow collection of skills which were neither quantified nor qualified, was widely prevalent for some years. A move towards greater clarity in the definition was initially driven by the requirements of military recruitment procedures in the USA in the 1940s and a proliferation in the use of normative assessment techniques. As a result individuals were labelled as "literate" or "illiterate" according to their performance on tests of reading and writing proficiency (see Newman & Beverstock, 1990).

As late as 1960 the USA Census Bureau perpetuated definitions of literacy that related to time spent in formal schooling rather than performance on specific tasks in specific contexts. Their definition, which labelled all those persons over 14 years of age who had some formal schooling as being literate, resulted in the 1960 Census Bureau claiming 98.5% literacy for the American population. However, by this time UNESCO was moving towards a broader definition of literacy as follows:

> Literacy is the possession by an individual of the essential knowledge and skills which enable him or her to engage in all those activities required for effective functioning in his or her group and community and whose attainments in reading, writing, and arithmetic make it possible for him or her to use these skills toward his or her own and the community's development.
>
> (Senate Standing Committee on Education and the Arts, 1981)

This definition, emphasizing as it does the individual and context-specific aspects of literacy, is very similar to many of the definitions proposed in the 1990s.

The debate about definitions continues, however, and there are a number of terms to be found in the literature, e.g., "functional literacy", "vocational literacy", "computer literacy" and "survival literacy" (see Venezky, Wagner & Ciliberti, 1990).

In Australia there has been a gradual acceptance of definitions that link literacy to language and view literacy in the context of other communicative processes. This approach is illustrated in the Australian Federal Government's Green Paper, *The Language of Australia* (Dawkins, 1990), which states:

> Literacy involves the integration of reading, writing, listening, speaking, critical thinking. It includes the cultural knowledge which enables a speaker, writer or reader to recognise and use language appropriate to different social situations. Functional literacy means the ability to read, write, speak and listen well enough to accomplish everyday literacy tasks in our society in different contexts, such as the workplace or the classroom.
>
> (p. 4)

A problem with this definition is that it makes no reference to numeracy. Later in this report it will be argued that literacy programmes for adult learners with intellectual disabilities should be integrated and cover those curriculum areas that enable a person to function more effectively in his or her community. This will necessitate the development of programmes that include numeracy and link numeracy teaching to reading, writing and listening skill development. The final outcome will be teaching modules that focus on the development of communication skills in the fullest sense.

The term "literacy" provided in the Green Paper was later modified. The broader definition is found in the policy information paper *Australia's Language: The Australian Language and Literacy Policy* (Dawkins, 1991). This document (the White Paper companion volume) proposes the following definition:

> Literacy is the ability to read and use written information and to write appropriately, in a range of contexts. It is used to develop knowledge and understanding, to achieve personal growth and to function effectively in our society. Literacy also includes the recognition of numbers and basic mathematical signs and symbols within text.
>
> Literacy involves the integration of speaking, listening, and critical thinking with reading and writing. Effective literacy is intrinsically purposeful, flexible and dynamic and continues to develop throughout an individual's lifetime.
>
> (p. 9)

This definition has the advantage that it emphasizes the dynamic aspects of literacy; however it is restrictive to suggest that numeracy consists only of the recognition of mathematical symbols within text.

The definition of literacy which has been adopted by this project is that proposed by the ILY Secretariat (1990):

> Literacy involves the integration of listening, speaking, reading, writing and critical thought; it incorporates numeracy. It includes the cultural knowledge which enables a speaker, writer or reader to recognise language appropriate to different social situations. For an advanced technological society such as Australia, our goal must be an active literacy which allows people to use language to enhance their capacity to think, create and question, which helps them to become more aware of the world and empowers them to participate effectively in society. (p. 8)

For the purposes of this project the breadth of the ILY definition is welcome. It makes clear that the concept of literacy encompasses a range of communication activities and also stresses the continually changing nature of communicative processes. Moreover, when considering the literacy needs of people with disabilities it is especially pertinent to emphasize the role that literacy plays in empowering them to participate in meaningful ways with their environment.

Target group for this project

The target group for this project was "adult people with intellectual disabilities". Our concern was with adults of post-secondary school age, i.e., above the school leaving age of 16 years.

The term "intellectual disability" has a wide range of meanings, and has traditionally been linked to an individual's performance on an intelligence test (IQ). The American Association of Mental Deficiency (AAMD) defines intellectual disability as "significantly subaverage general intellectual functioning resulting in or associated with concurrent impairments in adaptive behaviour and manifested during the developmental period" (Grossman, 1983, p. 11). This subaverage intellectual functioning is usually meant to imply a score on an intelligence test of two or more standard deviations below the mean. People with intellectual disabilities are sometimes subsequently categorised by their IQ scores into sub-groups. The AAMD recognises four such groups (mild, moderate, severe and profound), whereas the World Health Organisation divides the same population into five groups: borderline, mild, moderate, severe and profound.

Our study did not identify people with intellectual disabilities on the basis of an intelligence test score, although in the questionnaires we did use the categories of "mild", "moderate" and "severe" in order to establish the differences in services received by these subgroups. However, the aim of the project was to examine the literacy needs of *all* adults with intellectual disabilities, including those who use augmentative communication aids. This necessitated using a general descriptive term which enables adults to be viewed on a continuum of intellectual disabilities. Where literature was reviewed we used the labels or descriptions of the authors, where we have sought information from organizations, service providers and the like we used the definitions and criteria that they use. Some organizations do not use labels, however they were still able to describe the needs of people with intellectual disabilities to us.

This project did not examine the literacy needs of all adults with special needs. That is research relating to people with, for example, hearing or sight impairment are not reported. However, some conclusions about people with intellectual disabilities were extrapolated from National and State surveys that dealt with the whole area of disability.

Historical overview

In order to provide a historical context for this study we provide a brief review of recent publications that relate to adult literacy in general, and a description of the key research projects in Australia that have been concerned with educational provision for adult learners with intellectual disabilities.

Adult literacy

Literacy has become a political issue both within and without Australia, and politicians of all political allegiances have claimed that their policies will achieve a more literate society with a corresponding increase in efficiency and productivity. The anxiety over low literacy levels is related to wider issues, in particular the need for Australia to maintain a competitive place in a technological world. As Long (1989) pointed out in his study of literacy in the workplace, the great majority of employers and unions believe that modern technological advancements make literacy an imperative for Australian workers.

The need for programmes for unemployed persons to include literacy training has been officially recognised since 1990, when the Federal Government made it mandatory for literacy and numeracy education to be included in vocational and pre-vocational training programmes. Cumming and Morris' (1991) investigation of literacy and numeracy education for unemployed people has yielded much useful information about the most appropriate methods of service delivery.

There are other significant costs of adult illiteracy which should not be ignored. As DEET reported (1989) in *The Social Costs of Inadequate Literacy Skills* there are a number of ways in which illiterate adults are disadvantaged, including the ability to participate in the local community, the ability to exercise individual rights, the ability to undertake further education and the ability to use talents and abilities. DEET also noted that those adults who have inadequate literacy skills are more likely to turn to crime, become social welfare recipients and be exploited. A circular position is thus achieved in which a lack of literacy skills leads to other disadvantages which in turn result in a greater cost to the nation.

The history of provision at a state level for adult learners prior to 1985 is documented in a comprehensive review undertaken by Dymock (1984). Since Dymock's report was published, there has been a steady increase in adult literacy activities, much of which can be attributed to the efforts of the "Australian Council for Adult Literacy" (ACAL) and the "Adult Literacy Action Campaign" (ALAC) Programme.

ACAL was formed in 1976 as a national body for those interested in adult literacy. Its purpose is to promote study, research and action in adult literacy. Nelson (1983) has suggested that the Council has been successful in raising public awareness of the issues in adult literacy provision, as well as giving service providers a vehicle for information dissemination through newsletters and annual conferences. Since 1983, ACAL has been instrumental in promoting the adult literacy profession, and has become a key lobby group in the area, contributing to decision-making on topics such as teacher training and national projects in adult literacy.

ALAC was an outcome of the 1987 National Policy on Languages which recommended the setting up of a national cooperative campaign to improve the levels of adult literacy and increase the knowledge base for future actions and policy (Lo Bianco, 1987). A comprehensive review of the activities promoted by ALAC was undertaken by the consultancy firm Ernst and Young (1990) and an outline of the projects funded by ALAC was provided in their report.

Ernst and Young (1990) concluded that the use of ALAC funds were successful at a state and territory level in leading to the development of expanded provision, curriculum, research, staff development and greater participation in adult literacy programmes. They also noted that the injection of ALAC funds encouraged two states (Victoria and Queensland) to provide additional funds of their own with the result that there was a significant increase in provision in adult literacy in these states.

Despite these positive outcomes, Ernst and Young (1990) expressed concern at the continuing high level of unmet demand. They pointed out that Government must recognize that "education is ongoing and lifelong and provision must be made for this" (p. 78). They also stressed that the present ad-hoc nature of much adult literacy provision was unsatisfactory, and could only be resolved by ongoing funding which would enable the development of strategic planning with full-time, paid teachers and tutors.

A significant study of adult literacy abilities in Australia is that of Wickert (1989) entitled *No Single Measure*. This was the first quantitative survey designed to obtain a national picture of literacy levels of the Australian population. Wickert sampled the literacy skills of 1500 adults in terms of their achievements in three areas of Prose, Quantitative and Document literacy. Wickert concluded that it was impossible, on the basis of her results, to assign any kind of "literacy score" or label to individuals, since individuals achieved a mixture of relative successes and failures on the various tasks. Overall, the survey found the majority of adults could perform straight-forward literacy tasks, but many were unable to complete tasks of moderate complexity, especially those involving prose literacy and quantitative literacy. To give some examples of the tasks and results: 57% could not correctly calculate a bill with a 10% surcharge, 21% could not find a requested number in the telephone directory, 38% could not calculate the change from $5 for a lunch order, and 4% could not sign their name correctly on a bankcard.

Two other findings were particularly interesting. Firstly, 10% of the sample were unable to achieve at all on the quantitative literacy tasks, and secondly 1% of the sample had such poor literacy levels that they were not able to continue with the assessment. It should also be noted that 2% of those who were unable to complete all the tasks in Wickert's study identified intellectual disability as a factor in their literacy attainments.

Government policy and discussion papers written since 1989 have recognised that Australia has, to a greater or lesser extent, many citizens who have difficulties in performing tasks requiring literacy, and there has been an increasing emphasis on the need for action. The policy paper *Australia's Language* (Dawkins, 1991) for example, is clear in its view that there are widespread unmet needs that must be addressed.

> What is needed now is action rather than further analysis or review. The case for action is clear and compelling ... approximately one million Australians have literacy problems which prevent them from participating effectively in the workforce, in education and training, and in community life. (p. 2)

Both the *White Paper* (Dawkins, 1991) and the *Green Paper* (Dawkins, 1990) are significant landmarks in the move towards providing adequately funded adult literacy programmes in Australia. The *White Paper* outlines a number of funding packages for the period 1990-1994. The targets for these funds include training for adult literacy tutors in TAFE and higher education, the development of a new Adult Literacy Curriculum, the funding of Special Intervention Programmes for job-seekers, and the funding of Literacy in the Workplace programmes. The *White Paper* also targeted Aboriginal and Torres Strait Islander people as having special needs and outlined proposals for providing additional support for other students whose mother-tongue is not English. Although the Commonwealth's commitment of $39.39 million in 1991-92 is encouraging (compared with a base of $2.6 million in 1989-90) it is disappointing that there is no mention in the policy paper of the literacy needs of adult people with intellectual disabilities. If the rhetoric of politicians is to be believed, and current social justice statements are observed, then statements about adult education and literacy education in particular must be equally relevant to all minority as majority groups. The *White Paper* seems to have been written with no recognition of the history and needs relating to adult learners who have special needs. In this it failed to address the very first of its stated goals which was that "all Australians should develop and maintain effective literacy in English to enable them to participate effectively in society" (p. 4).

Education provision for students with intellectual disabilities

Many of the few studies that have examined the educational needs of people with disabilities have been undertaken in the TAFE sector. In 1984 the Victorian TAFE board commissioned the consultants Touche Ross to carry out a survey of the educational and vocational needs of disabled students in the USA, UK and Australia (Victorian TAFE Board, 1984). However, the target group for this survey was students with physical disabilities and therefore the conclusions are not strictly relevant. The project is mentioned here as it represents the first attempt to view the educational needs of students with disabilities as an issue in terms of human rights and equity concepts. In addition, Touche Ross provided an interesting framework for viewing progress in educational planning and provision in a world-wide context so that differing national policies towards disability groups could be presented.

The earliest reports to investigate services for people with intellectual disabilities in TAFE throughout Australia were completed by Byers and Hocking (1980), and Walker (1988). However, these reports were superseded by the 1988 Department of Community Services and Health report *TAFE and People with Disabilities.* Since this was a comprehensive research project whose primary emphasis was on persons with intellectual disabilities and TAFE provision, its methodologies and results will be described here in some detail.

The primary focus of the review was the needs of people with intellectual disabilities. To ensure input from a wide range of service providers and consumers, surveys were sent to all TAFE colleges in Australia, and all TAFE teacher training institutes. In addition, group sessions were held with TAFE students training to work in residential settings with people with intellectual disabilities. Group sessions were also held with people with disabilities in seven locations, and 50 interviews, group sessions and inspection of programmes took place in other locations (i.e., sheltered workshops, activity therapy centres, and Government agencies).

Some of the most significant findings of the study were:

> An estimated 11,750 students with disabilities were enrolled in TAFE courses in 1986. This represented approximately 1.4% of the total TAFE student enrolment (p. ix).
>
> Of these 11,750 students, the largest group (38%) was those with intellectual disabilities (p. x).
>
> Most of the TAFE programs for people with intellectual disabilities were separate from mainstream classes (p. x).
>
> Most programs were categorized as life skills courses and did not bridge to further education (p. x).
>
> Staff training was a significant problem, both within and without specialist disability areas (p. xi).
>
> People with disabilities were often not aware of the provision available to them (p. xi).
>
> People with disabilities had to overcome a number of problems before they could participate in programs. Identified problems included a lack of support personnel, transport difficulties, social isolation, and fear of ridicule (p. xi).
>
> (Department of Community Services and Health, 1988)

Having identified these issues, and described examples of innovative and successful provision, the report made 28 recommendations for the future. Some of the key recommendations which this project wishes to endorse are as follows:

> TAFE should provide pre-vocational and vocational courses for all students regardless of their disabilities.
>
> TAFE should develop a major staff training role.
>
> Every TAFE college should have a support person for students with disabilities.
>
> Building access must be adequate.
>
> Formal and effective links must be established between TAFE, school and post-school establishments.
>
> A TAFE Australian disability advisory level group should be established at a national level with representatives from each State.

While these recommendations have been articulated in reports, to date few have found their way into policy documents. However, a National Group of TAFE Disability Advisers was established in May 1991. This group is developing a staff development package to improve the teaching competencies of generic teachers and to facilitate the participation of people with disabilities in mainstream TAFE programmes. The group is also preparing a draft national plan for people with disabilities in TAFE as well as providing advice to such committees as the Mayer Committee about the need for a flexible approach to the issue of key competencies and people with intellectual disabilities. The initiatives of this group do signal positive steps towards meeting some of the recommendations of the report *TAFE and People with Disabilities* and to articulating some of the concerns about provision for people with intellectual disabilities in TAFE.

TAFE and People with Disabilities focused on services in general in the TAFE sector and not on literacy services in particular to people with intellectual disabilities. One of the aims of this report *A Survey of Adult Literacy Provision for People with Intellectual Disabilities* was to provide an up-to-date picture in terms of literacy provision and, most importantly, provide more detailed information about the content of available programmes and the use of materials. Additional goals of this study have included an examination of the training needs and skills of staff.

The most recent document to discuss the needs of young people with disabilities was the DEET commissioned report of the Australian Education Council Review Committee, *Young People's Participation in Post-compulsory Education and Training* (1991). Although this report examined the needs of all students, it also made reference to the special needs of students with disabilities. This Federally funded project recognized that there was no recent comprehensive review of the participation of people with disabilities in tertiary education and accordingly DEET commissioned the services of a consultant, Dr Robert Andrews to study this issue.

In the report *Assistance for Students with Disabilities*, Andrews (1991) provides a comprehensive literature review and detailed analysis of existing National and State surveys. After examining the available data, Andrews concludes that there continues to be a grave lack of research and data relating to post-school education opportunities for people with disabilities. There is, as yet, no way of knowing the precise extent of the need, since the necessary research with disabled school leavers has still to be undertaken. Estimates of need that are based on the numbers of students already attending tertiary establishments have limited value, since they say nothing about the students who may require programmes, but who, for one reason or another, are currently not receiving them. However, despite these difficulties, Andrews concluded that "the broad data identified in the literature supports the generally held perception that students with disabilities are significantly under-represented in post-compulsory education and training" (p. 50).

Andrews identified four main barriers to participation for disabled school leavers: a shortage of appropriate programmes, inadequate support services, a lack of transition planning, and insufficient links between schools with enrolled students with disabilities and local TAFE colleges.

Further problems described by Andrews were inadequate identification of students, inadequate physical access, a lack of role clarity for the tertiary institutions, and reactive approaches to individual student circumstances.

Andrews made a number of recommendations for the future, perhaps the most important being the significance he attached to transition planning. Andrews argued strongly that once students leave school they can slide out of sight at the very moment when they are in need of ongoing programmes to build upon their recent school achievement. Unless there is proper transition planning for the move from school to tertiary setting or other provision, students are left "high and dry". We would argue that this may be especially true for young school leavers with intellectual disabilities.

Although the Australian Education Council Review Committee concluded that many of Andrews' proposals had merit, and expressed particular interest in the transition issue, they did not suggest an allocation of tagged funds to implement them. Instead the Committee appeared to take the view that many of the obstacles described by Andrews are gradually being overcome, and they cited the Queensland Higher Education Disability Network as an example of a step forward which can be attributed to the Commonwealth Government's higher education equity programme.

For the Committee to reach this conclusion is disappointing, since it leaves an impression that services for people with disabilities are adequate or changing to meet the demand. It is the intention of this study to examine whether or not the provision of services in the area of literacy education for people with intellectual disabilities does meet the demand. Furthermore, to date most studies of provision have examined the TAFE sector, it was the intention of this study to look at all literacy education providers for people with intellectual disabilities.

Summary

"Literacy" is a difficult concept to define. However, the definition chosen for this project, that of the ILY Secretariat (1990), makes clear that literacy comprises several communication activities including the integration of listening, speaking, reading, writing, and critical thought and incorporates numeracy. The definition adopted acknowledges that literacy needs and use are constantly changing. The definition also suggests that for all people, including those with intellectual disabilities, literacy is a tool for making people aware of their world and for developing active, empowered participants of the society.

For the purposes of this project, adults with intellectual disabilities were individuals of post-secondary school age, and included *all* adults with intellectual disabilities, irrespective of the severity of their intellectual disabilities.

To date there has been little written about, or research into the literacy needs of adults with intellectual disabilities, however a review of adult literacy provision in general in this country reveals that there is a great deal of unmet demand for ongoing and lifelong provision of literacy education (Ernst & Young, 1990). In addition, provision to date is ad hoc in nature and on-going funding is required (Ernst & Young, 1990). The White Paper (Dawkins, 1991) has suggested that "unmet demands must be met" and the Federal Government has recently attempted to do so by directing funding towards the development of a training package for training adult literacy tutors in TAFE and higher education, the development of a new Adult Literacy Curriculum, and the like. However, the Federal Government has made no commitment to funding programmes or staff training related to the literacy needs of people with intellectual disabilities. This must be done if the Government is to make real the first goal of the White Paper, that "all Australians should develop and maintain effective literacy in English to enable them to participate effectively in society" (Dawkins, 1991, p. 4).

The review of studies investigating education provision for students with intellectual disabilities indicates the lack of wide-spread and universal policies and/or practices in the development of courses, staff training, support, physical access, and links and transition planning between schools and the tertiary sectors (Department of Community Services and Health, 1988; Andrews, 1991), as well as inadequate identification of students with disabilities, a lack of role clarity for tertiary institutions, and reactive approaches to individual student situations (Andrews, 1991). Responses to reports such as that of Andrews (1991) by the Australian Education Council Review Committee (1991) would seem to suggest that many of the areas of weakness identified above are being addressed. It is our belief that while some steps have been made to address some of the problems (e.g., the Queensland Higher Education Disability Network), the problems are still many, and indeed not being adequately met.

While this may be our perception of services in general for students with intellectual disabilities in TAFE and higher education, the brief of this Project was to obtain evidence (that is, to go beyond perceptions) about the literacy provision, in particular for people with intellectual disabilities. At the conclusion of our Project, unfortunately, we found that many of the problems identified by studies of general provisions, are equally true of literacy provision. Our conclusions and recommendations in Volume 1 of this Report detail the specific goals that must be met in the future if literacy provision for adults with intellectual disabilities is to improve. The Australian Government's and society's endorsement of human rights, social justice and equity must be translated into meaningful action in the area of literacy learning for adults with intellectual disabilities.

FACTORS AFFECTING LEARNING OF ADULTS WITH DISABILITIES

Suzie O'Hagan

Having completed a national survey of tertiary programmes for the adult learner with disabilities, Andrews (1991) identified a range of factors which are important if these students are to have their needs successfully met. They include student variables, teacher variables and teacher and tutor training.

Student variables

Support for the student was deemed to be particularly important, but support does not just take the form of positive attitudes. As Andrews (1991) pointed out support systems for the adult student with disabilities must include appropriate on-campus resource areas, social facilities, effective networks and information centres. Andrews stressed that the transition from the relatively well-serviced school campus to the relatively less well serviced centres for further education can be highly distressing for this target group, who may well feel inadequate in terms of having the communication skills to find their own way around.

Additional concerns identified by Andrews (1991) were child care provision, location (accessibility) of campus, class timing, and transport. None of these concerns is unique to persons with disabilities, of course, but these students are likely to experience more difficulty in achieving resolution to the practical management issues of further education. This is an area where specific barriers have already been identified and where many known solutions already exist.

The feelings of inadequacy experienced by many adult students attending literacy programmes are vividly illustrated in case study material reported in another ILY project, *A Word from the Riverina: Perspectives on Adult Literacy Education* (Brennan & Brennan, 1990). Many students stated that the biggest barriers to participation was the fear and reality of being labelled "disabled" or "stupid". If this is the case for the student without disabilities, it can be assumed that even today the learner with disabilities has to contend with much in terms of social ridicule. The conclusion must be drawn that there are two inter-related areas where progress affecting the emotional and social wellbeing of students with disabilities is required. Firstly, the attitudes of those providing services and the population at large should move to a more accepting and understanding position of the needs of students with intellectual disabilities. Secondly, adult students with disabilities need to be helped to acquire greater self confidence and social skills.

Teacher variables

The literature relating to the teaching of literacy skills to adults also identifies the need for teachers to have a positive attitude and to be skilled communicators. In a project which examined a number of pre-vocational and vocational literacy programmes in different states, Cumming and Morris (1990) found that the better programmes they observed featured team work on the part of the staff. They also observed that in some establishments which were identified as offering programmes of a high quality, staff met regularly and were supportive of one another. This is less easy to achieve if large numbers of part-time staff are employed and several different teaching locations are involved.

Cumming and Morris (1990) tried to determine the significant characteristics of successful teachers they observed, and concluded that effective, supportive teaching entailed the meshing together of a range of sub-skills and attitudes. These included: flexibility, the ability to individualize instruction, keeping up-to-date, and the use of context in designing programmes.

Although Cumming and Morris (1990) did not examine literacy programmes for adults with intellectual disabilities, and their research findings concerned general issues in adult literacy, the findings are pertinent to this project. The characteristics of teachers is a matter about which we sought information in the surveys.

Finally, Cumming and Morris (1990) saw the lack of teachers trained in the area of adult literacy and numeracy as a severe problem in providing quality programmes. They reported that the people responsible for organising and teaching programmes did not know what literacy and numeracy skills they should develop, and as far as the teachers were concerned, very few "had a conscious knowledge of modern methodologies in literacy and numeracy teaching" (p. 46). This is very similar to the findings of Andrews (1991) who reported a significant shortfall of trained staff to deliver programmes to adults with intellectual disabilities. The issues of qualifications in general and literacy qualifications in particular and of knowledge about intellectual disabilities and literacy teaching have been taken up in our surveys.

Cumming and Morris (1990) noted that staff attitudes were significant in achieving positive outcomes. They stated that the better programmes they observed were "distinguished by the attitude of the staff to their work and to the students ... this attitude was evident in the way they interacted with their participants, each showing trust and affection for the other. The teachers treated the participants as adults and were not patronising or overbearing" (p. 45).

Finally, another research project sponsored by ALAC which discussed desirable attributes of adult literacy teachers, reported that although there was no one single recipe for success in adult literacy programmes, those tutors "who can develop the self-esteem of learners are likely to be the most successful" (Brennan, Clark & Dymock, 1989, p. 72).

Teacher and tutor training

There have been a number of projects recently that have dealt with the training of personnel to work in the area of adult literacy. Most of these have not included suggestions for the teaching of students with intellectual disabilities. However, since many of the topics the programmes dealt with in some depth were identified in the research by Andrews (1991) as being key issues in the teaching of intellectually disabled adults, a brief mention will be made of some of these initiatives and the relevant issues they raised.

Beattie (1991) has produced a comprehensive training package for tutors entitled *Moving from Strength to Strength*. The development of the package formed part of the Adult Literacy Action Campaign, and consisted of a number of Adult Basic Education modules including "Adult Learning and Teaching", "Professional Roles", and "Essentials of Assessment and Evaluation". The modules are designed so that they can be used in a number of different ways. This flexibility is a great strength of the training package, as it means that students can study those sections which are most useful to them; it also allows students to study the modules at their own pace. Some of the key issues that were covered in the Beattie modules were as follows: literacy is empowering, literacy activities should be integrated with thinking, education is lifelong, literacy activities include listening, speaking, reading, writing and numeracy, literacy learning can occur anywhere, not just the classroom, teaching programmes must start with the learner, the teacher-pupil relationship is critical, the teaching climate should foster self esteem, and freedom of expression, and assessment tools should be selected that are appropriate for the skills being assessed.

A recent Australian project sponsored by ILY adopted an innovative approach to the training of tutors and teachers for intellectually disabled adults. The Rockhampton TAFE project *Discover the Teachable Moments* (Harreveld, 1991) took literacy programmes to the students in their residential settings. To achieve this, Harreveld developed a Tutor Training programme in order that caregivers, supervisors, volunteers and significant others could develop the skills appropriate for effective literacy teaching.

The approach the project took is in the same mould as those early intervention programmes for young disabled children (e.g., Portage) which mushroomed in the 1980s. Three concepts are central to the contextually-based Tutor-Training Programme she developed. First, the most important tutors for people with intellectual disabilities are those people who are with the students on a daily basis. Secondly, learning can occur at any time, not just at some designated hour in a classroom. Third, the curriculum can be truly individually-context specific if it is developed and modified in the home environment. The Tutor-Training Programme developed by Harreveld has been described in greater detail as a Special Project in a later section of this Report.

Summary

The effectiveness of literacy learning provisions for adults with intellectual disabilities will be determined by student factors, teacher factors, and teacher/tutor training factors. Disregard for elements such as: support systems, attitudes, effective teaching practices, and teacher/tutor training will mean that adults with intellectual disabilities will continue to receive inadequate literacy education.

APPROACHES TO TEACHING LITERACY

Suzie O'Hagan

Introduction: Literacy for what?

The current philosophy under-pinning most adult literacy programmes (irrespective of client characteristics) is that literacy should be expressed in functional terms. One of the reasons for this emphasis is the up-surge of programmes relating to vocational education, which in turn has been triggered by rising unemployment. For obvious reasons the emphasis of these vocational programs has been on those aspects of literacy that equip a person to function adequately or effectively in the workplace. An unfortunate outcome of this emphasis on functionalism may be a relative neglect of those aspects of literacy education that do not seem to yield an immediate, functional outcome.

The University of Texas Adult Performance Level Curriculum, described by Polloway, Patton, Payne and Payne (1989) provides an example of a curriculum framework which identifies essential or important life skills and defines the literacy achievements that facilitates the achievement of those skills. Although this model's focus is on the functional requirements of the student, and thereby implicitly ignores any non-functional requirements, its emphasis is also on individual needs. This is in line with contemporary approaches to the teaching of students who have any kind of special need. As Polloway et al. pointed out, it is essential that student needs are identified in order that skills and curriculum can be determined. However, in view of the current paucity of research which includes asking people with intellectual disabilities what their needs and wishes are, the latter part of this process is largely characterised by guess work and common sense.

Sutcliffe (1990) also adopted a functional approach in the curriculum framework that she proposed for tutors of literacy programmes for "learning disabled" adults in England. It should be noted that in the context of her work, the term "learning disabled" included those with intellectual disabilities. Sutcliffe identified five key curriculum areas: work, leisure, independence, relationships, and personal development. She stressed that all literacy activities should have a purpose that reflects the needs and wishes of the learner. Sutcliffe's project is of particular interest because input into the design of the curriculum was sought from the students, i.e., the adult learners. Unfortunately the final publication does not specify either the numbers that were interviewed or the content of the educational programmes that were evaluated. However, an objective of the project was to provide a description of teaching strategies and resources and in this it was successful.

The authors referred to above are just a few of the many that have explicitly or implicitly supported a functional definition of literacy. The strength of a functional definition is that it avoids any reference to prescribed standards or achievements, and thereby allows infinite definitions of literacy; in other words, "literacy" can mean something different for every learner.

However, there are drawbacks to a functional approach. The most pressing criticism is that the use of the term "functional" implies that all literacy tasks must be associated with "real world", purposeful outcomes. In practical terms, teachers might be expected to focus on useful activities that supposedly enable a student to function effectively in society. As Lankshear (1985) has pointed out, these programmes can become excessively narrow, and mistakenly trap the teacher and learner into the teaching and learning of skills that are arbitrarily thought to lead to an improvement in social integration, or an increase in job opportunities. But as Levine (1982) noted that it is impossible to determine what is "necessary" for any one individual. There is a risk that literacy education may become caught up in some kind of social engineering process, if attempts are made by others, including governments, to define what is "necessary".

Another danger of the functional approach is that it implicitly devalues those activities that are not seen as having a functional outcome. These activities could include reflective writing, reading for pleasure or completing a crossword puzzle. As will be seen in a later section, adults with even minimal literacy skills are clear that they wish to learn to read and write for reasons that would not be described as functional. To force them to accept some kind of narrow functional curriculum would negate the whole purpose of education.

The integrated curriculum

There is general agreement in the literature that adult learners with and without disabilities require an integrated curriculum. Grant (1987), for example, after completing a nationwide study of literacy programmes in TAFE, concluded that a whole language approach is preferable, and reading, writing, speaking and listening activities must be interwoven for the best possible outcomes. In a similar vein, the 1989 Adult Basic Education policy document of the State of Victoria Department of Education recommended that integrated teaching strategies should be developed which took into account elements of language, literacy, mathematics and science.

The literature that relates to adult learners with disabilities also stresses the desirability of integrating all the language arts: reading, listening, writing, speaking and also numeracy. The work of Snell (1987), Sutcliffe (1990), Patton (1989), Cumming and Morris (1990), Beattie (1991) and Harreveld (1991) has already been discussed. Examples of programmes that operationalize an integrated curriculum can be found in later chapter in this volume. Educationalists that are engaged with designing literacy programmes for adult students with intellectual disabilities are strongly advised to consider these examples of integrated programmes.

Needs of the adult learner with intellectual disabilities: Beyond functionalism

Learners are unlikely to persevere with their studies unless the activity itself is intrinsically rewarding or the students feel that the outcome of the learning will in some way enhance their lives. One of the few studies to date which has asked the consumers directly what literacy needs they have was undertaken by Watson (1988). At a rehabilitation centre for people with disabilities, Watson conducted individual interviews with 23 residents, 4 of whom had intellectual disabilities, and 6 of whom had both intellectually disabilities and behaviour problems. What was interesting about Watson's findings is that these adults did not, (despite their limited literacy skills), restrict their literacy needs only to functional areas. They also specified reading "fiction" and the full range of literacy applications (eg. reading the T.V. guide, writing a letter, writing a shopping list), that any other group might be expected to identify.

In a study which examined the reading and writing skills of young adults with intellectual disabilities Farrell (1990a) found that the students expressed an enthusiasm for learning to read and write. Although the sample size was small, this is an interesting finding since the adults in the "lowest" group had receptive language ages from 4 to 6 years, and therefore had minimal decoding skills. What is also noteworthy is that Farrell found that her students understood that text conveys a message; she therefore concluded that they had some concept of reading and writing as a means of communication, and this in some way prompted their high level of interest and motivation.

Further support for the view that adults with intellectual disabilities have much the same expectations of literacy programmes as the population at large was given by Sutcliffe's

(1990) project in England. Sutcliffe reported that the adults who gave information about their literacy needs cited a whole range of desirable outcomes, both functional and non-functional. The concept of "literacy skills for pleasure" must not, therefore, be forgotten, and the adequacy of "functional literacy" as a goal should be regarded with some caution.

Introduction to teaching approaches

The paucity of literature about strategies for teaching literacy skills to adults with intellectual disabilities is disheartening. Even advice on the most common theoretical frameworks is difficult, as to date research has almost always focussed either on the teaching of adults without disabilities, or on the teaching of children with disabilities. Another problem for teachers is the difficulty of locating the research. As Thomas (1991) has pointed out, practising teachers do not have the time or resources to access research regularly. Therefore, Thomas suggested that intermediaries are necessary to transmit the information generated by research to those working at the "chalk face".

In a similar vein, Cumming and Morris' (1991) study of literacy and numeracy programmes for unemployed people found that teachers were too busy with their every-day routines to undertake study. In addition, Cumming and Morris reported that many teachers did not belong to the relevant professional associations such as the Australian Council for Adult Literacy, and they were therefore not automatically in receipt of regular research news about teaching techniques.

This lack of linkage between research and practice is worrying. In view of this Project's finding that all over Australia individual TAFE establishments are involved in designing and implementing literacy programmes frequently specifically for the target population, it would be highly beneficial if a national information network could be set up. This would not only facilitate the dissemination of research, but keep practitioners abreast of successful and/or interesting strategies that have been developed elsewhere in the country. Since the volume of research activity that focusses on literacy programmes for adult learners with intellectual disabilities is currently slim, the networking operation should not prove to be particularly cumbersome.

The learning behaviours of adults with intellectual disabilities

Blanton, Semmel and Rhodes (1987) undertook a comprehensive literature review of the reading behaviours of the "mildly mentally retarded" learner with the objective of discovering what similarities or differences there were between this group and the "non-retarded" learner. After discussing research ranging over a number of topics including word identification, learning strategies, information processing, and metacognitive processes, Blanton et al. concluded that "the most robust finding in the literature on the reading characteristics of mildly mentally retarded learners appears to be that these children develop their reading competencies more slowly but in the same general sequence as do non-handicapped learners" (p. 95).

More recently, Farrell's (1990) study yielded similar conclusions, and this is significant since her project was undertaken with young adults, whereas the research papers reviewed by Blanton et al. (1987) mainly focussed on younger students. Farrell's study stands almost alone in its attempt to analyse learning and teaching strategies for the target group. She concluded that "their learning behaviours were typical of normally intelligent learners at a comparable attainment level. Their positive response to scaffolded or assisted direct teaching was similar to that which the author had observed with students of above average ability who are experiencing specific learning difficulties" (p.15).

Recently, Farrell and Elkins (1991) have provided an excellent and detailed review of the few studies of reading instruction with children and adults with intellectual disabilities. In addition, these authors describe an intervention study which details the reading and writing behaviours that can be the targets of instruction. Farrell and Elkins (1991) describe the key components of assisted learning and how the teaching strategies that comprise such an approach to literacy instruction can be implemented. The suggestions about teaching techniques rests on the belief that "instruction of atypical learners needs to take account of what is known about effective literacy instruction for ordinary children, and about the social mediation of learning" (p. 15).

There have been a number of attempts to determine what differences exist, if any, between the learning strategies required for students who are described as "mildly handicapped", "mildly mentally retarded" and those who are classified as "learning disabled". In an extensive review of the literature, Reschly (1987) concluded that although the empirical evidence is thin, students with learning disabilities and mental retardation benefit from the same teaching strategies. These will be discussed in a later section.

There is general agreement in the literature that differences exist however, between the adult learners with and without disabilities. The most significant of these are the time taken to acquire a new concept, the time taken to forget a concept, the degree to which generalisation occurs, the ability to use strategies, and the degree to which tasks need to be broken down into component parts. In addition, the student with disabilities is thought to differ from the student without disabilities in their ability to acquire learning experientially. (These are examined below.)

It is difficult to state with any degree of precision the extent to which any one of these differences will affect the learning of an individual task, since the acquisition of any new skill is also influenced by the existing knowledge-base of the student, his or her motivation, the skill of the teacher, the relevance of the topic and other factors. It is perhaps more appropriate to assume that multiple variables should be taken into account when designing teaching programmes, and successful outcomes are most likely if the needs of an individual student have been assessed with reference to them.

Time

Polloway, Patton, Payne and Payne (1989) discussed a number of differences between the adult learner, with and without disabilities and concluded that the most significant of these is the additional time taken by the former group to acquire new concepts. People with intellectual disabilities need optimum learning situations so that they have the time to acquire and master the skills. Perkins and Cullin (1985) made a similar observation and also stressed that new skills must be continually put into practice or they will be forgotten. Opportunities for continuous revision and systematic skill development over a long period are needed. This supports the notion that the curriculum content must relate quite specifically to the everyday world of the learner with intellectual disabilities, so that once new concepts are learned they are continually operationalized. This rationale does not only relate to the learner with intellectual disabilities; any adult will rapidly forget a new language, for instance, if regular practice does not occur. But regular practice seems to be more important to learners with disabilities. Schloss, Hughes and Smith (1988) and Gerber (1985) have also noted the relatively quick "forgetting" time for students with disabilities.

The obvious practical implication of this finding is that teachers must ensure that the skills which they teach have the maximum chance of being put into practice outside the teaching session. In this way the likelihood of new knowledge or skills being forgotten is reduced.

Strategies and generalization

The use of strategies to facilitate learning has been part of standard teaching practice for many years both in mainstream and special education settings. It is not yet clear to what extent strategies facilitate learning, nor is it apparent which strategies are particularly beneficial. However, after reviewing research which examined the efficacy of "cognitive strategy instruction" in the curriculum areas of reading, writing, mathematics and problem solving, Palinscar and Brown (1984) concluded that there is considerable evidence to suggest that cognitive strategy instruction techniques are of value for students with special needs. Palinscar and Brown also noted that cognitive strategy instruction can take many forms, including the teaching of writing protocols (Flowers & Hayes, 1981), the teaching of reading strategies (Paris, Cross, De Britto, Jacobs, Oka & Saarnio, 1984) and the teaching of problem solving techniques relevant to mathematics (DeCorte & Versshaffel, 1981). These will be discussed in the appropriate sections of this review.

Wong (1982), however, suggested that some caution should be exercised in adopting cognitive strategies for the teaching of students with learning disabilities. The reason for this caution is that it seems there are significant differences between the disabled and non-disabled students' ability to generalize from one task to another. The ability of children without disabilities to generalize and transfer learning is limited, and dependent on an adequate level of mastery. This level of mastery may never be achieved by persons with disabilities (Brown & Campione, 1982). Consequently, a large amount of time devoted to teaching strategies may yield a relatively narrow outcome. In a review of the literature Haring (1987) noted that this differing ability to generalize knowledge and skills is difficult to qualify and quantify; as in so many areas of special programming, the abilities and motivation of the individual student must be taken into account, as well as the relative similarity of the tasks and their complexity.

Finally, mention should be made of the concept of "scaffolding" since it is a term that frequently occurs in the literature relating to teaching programs and techniques for students with intellectual disabilities. A number of types of scaffolding have been described which share the common role of providing support for the learner until such time as he or she can function independently. Removal of the scaffolding is often a gradual, rather than a sudden process; it will be seen in later sections of this review that the use of scaffolding devices promotes positive learning outcomes.

Task analysis

The extent to which a student requires a task to be broken down into steps will depend on a number of factors, including the nature of the task to be taught, the abilities and learning rate of the student, and the feasibility of breaking the task down. Task analysis has become a particularly important feature of programs for students with severe intellectual disabilities, and in the area of self-help skills there has been a proliferation of teaching programmes which link the concept of task analysis to behavioural techniques.

In terms of literacy programs for adults with intellectual disabilities, the issue for the teacher is to recognize that students will require material to be broken down into smaller component parts than their peers. However, the desire to avoid fragmentation dictates that reference is made wherever possible to the whole; hence the current preference for integrated, whole language approaches in literacy programmes. The skillful use of scaffolding by a teacher can also mean that where task analysis occurs and components of a behaviour are learned, fragmentation can be avoided.

Experiential learning

A number of authors, including Snell (1987), Clunies-Ross (1990), and Polloway, Patton, Epstein and Smith (1989) have pointed out that students with intellectual disabilities do not appear to acquire knowledge and skills experientially in the same way as their peers. This has led to a general acceptance of direct instruction methods for the teaching of elementary academic skills.

Approaches to learning

There are frequent references in the literature to "bottom-up" and "top-down" approaches to learning. The first of these, the "bottom-up" method, assumes that students initially learn lower-order skills on which they build and from which they generalize in order that higher order skills can be achieved. Conversely, the "top-down" approach starts with a specific teaching goal, then identifies those specific skills that need to be taught to achieve the goal. The distinction between the two approaches is discussed by Clear and Green (1985) who noted that the top-down approach under-pins the notion of compensatory education, since students may be taught ways around a problem without necessarily having solved the problem itself. Clear and Green gave the example of banking, where a student can be functionally independent in terms of banking a welfare cheque without necessarily having the numeracy skills to compute the balance in his or her account.

Educationalists supporting a "bottom-up" framework of teaching reading include Clunies-Ross (1990), who emphasised the need for a step-by-step build up of skills, highly structured programmes in which error correction is immediate, and an avoidance of self-initiated learning techniques. Similarly, Mastropieri and Scruggs (1987) maintained that the learner with learning disabilities requires programmes in which the pyramid principle is maintained, i.e., the student starts by mastering those skills at the bottom of the pyramid and systematically builds new skills on top of the old ones until the pinnacle is eventually reached.

However the "bottom-up" approach to literacy teaching is at variance with the notion of compensatory education already described, and has by no means received universal support. It will be seen in later sections of this review that for some literacy areas, a hierarchical build up of skills may be preferable or essential (for example, in writing or computation), but in other areas a "top-down" approach is preferable.

It may, therefore, be more appropriate to avoid generalizations which polarize "top-down" and "bottom-up" approaches, and instead focus on the individual needs of the student, the task to be taught and the teaching resources available. Inevitably, the sensitive teacher will adopt different strategies according to the balance of these variables. Most skilled activities required both "top-down" and "bottom-up" approaches plus a knowledge- or content-master dimension (Sternberg & Powell, 1983).

In recent years there has been a great interest in the "whole language" approach to literacy teaching. (The debate about definitions(s) of "whole language" will not be discussed here.) This approach, however, embodies the definition of literacy adopted for this project, i.e., literacy is a collection of activities which enable an individual to make meanings. For literacy skill acquisition to be optimal, the existing knowledge and language base of the student should be inter-woven and drive the curriculum. The projects of Harreveld (1990), Cumming and Morris (1990) Beattie (1991) and Grant (1987) have already been mentioned, and, despite focussing on a variety of target groups they share the link of utilizing or reporting the dominance of a "whole language" approach to teaching literacy. A report of a project that based a programme for adults with intellectual disabilities on the "whole language" philosophy is provided later in this Volume. This approach is currently the most preferred and prevalent in the field of adult literacy, including literacy for adults with intellectual disabilities.

Farrell's (1990) study of the reading and writing skills of young adults with moderate intellectual disabilities supported the notion of an integrated, "whole language" approach. Farrell found that it was critical to provide opportunities for the learner with intellectual disabilities to talk about written text. As she pointed out, students usually have the opportunity to utilize their learning on a day to day basis, but for the learner with intellectual disabilities this may not be the case unless the written language is either part of their everyday oral experiences or is provided by interaction with competent language users. A most valuable strategy, therefore, for the young adults in Farrell's study, was to provide volunteers to engage students in conversation relating to their reading and writing experiences.

None of the approaches to learning obviates the need for the teacher to be well organised and have a clear view of expected outcomes, as well as the techniques for achieving these. Lewis (1983) has pointed out that task analysis, structure and relevance have all been found to be important features of successful programs for the those with intellectual disabilities. Similarly, Snell (1987) and Clunies-Ross (1990) have argued that organisation, goals and clearly identified strategies are particularly important in teaching programs for the those with intellectual disabilities.

In terms of structuring programmes, Wilson (1988) provided a useful diagrammatic framework of the procedural stages for teachers of "mentally disabled" students. His instructional plan included the stages of assessment, goal setting, selection of instructional strategies, implementation, monitoring and programme review. Wilson viewed his framework as being conceptually similar to the most commonly used Individual Educational Plan models, which are characterised by clear task analysis and activity-sequencing. Wilson also stressed the importance of direct skill instruction for the "mentally retarded" and the need for teaching programmes to incorporate continuous monitoring techniques. This is a conclusion shared by a number of authors, including Kitz (1988), who stated that direct instructional methods have been found to be most successful with "intellectually disabled" school children. (The issue of definition and differences between "Direct Instruction" and "direct instruction" is not addressed here.)

There are, however, dangers in the teacher driven, direct instructional approach which should be noted. The Roeher Institute (1990) pointed out that one negative outcome of the extensive use of highly structured, teacher-directed programmes can be a "cycle of dependency" which inhibits the student from initiating their own learning. Shapiro (1991) has also pointed out that learners can easily become over-dependant if they are not part of the planning process for their teaching programmes, but rather passive recipients. Similarly, current practices such as "scaffolded instruction" or the "the social mediation of learning" are considered by some to run counter to direct instruction views of learning. The task for the teacher is therefore to provide well organised, goal-directed instruction which has been reached after negotiation with the student. In addition, effective teachers should ensure that their teaching strategies seek to empower rather than control the learner, and in the quest for learning the teachers' role is that of a facilitator, assisting the learner to gradually attain independence on learning.

Reading

The teaching of reading has been a subject of intense debate for many years and although there are few "purists" who advocate exclusively for one approach to the exclusion of any other, feelings about how reading "should" be taught still run high.

The earliest methods of tuition in general education focussed mainly on the phonic approach which entails teaching the alphabet, the letter sounds, blends etc. This code method seldom exists in a pure form; as Adams (1990) has pointed out, most reading programmes include at least some elements of phonic analysis. However, for a number of years many teachers considered the phonic aspects of their reading programmes to be the most critical if success in reading was to be assured.

The other major approach towards the teaching of reading is the "whole word" technique. In its most basic form this entails students learning a sight vocabulary, starting with those words which are of highest frequency. The "whole word" approach is under-pinned by an emphasis on meaning; the philosophy is that words are recognised holistically, with cues such as pictures and context aiding the recognition process; phonic tools are a secondary or unnecessary part of the process.

There has been intense public debate about the merits of code versus meaning, or phonic versus whole-word approaches to reading. The problem for the teacher is not just to make sense of the research relating to the efficacy of the models, but to pursue a path which he or she believes to be appropriate despite such discord.

Returning to the earlier discussion about the "top-down" versus "bottom-up" approaches to teaching, the whole word approach to the teaching of reading can be seen to be more closely linked to the former, whilst the phonic approach is more closely linked to the latter. A third theory of reading combines elements of both. The interactive approach has gained considerable favour, since both meaning and code elements are essential and inter-related. The interactive view is consistent with schema theories of comprehension. The interactive view of reading is based on the notion that a student's existing knowledge is stored in the memory in abstract structures called "schemata" (Hacker, 1980). Hacker argues that text does not in itself carry meaning; the meaning is constructed by readers using their existing knowledge or schemata in combination with their decoding skills to create their own meanings.

It has already been stated that the definition of literacy adopted for this project recognizes that reading and writing enhance an individuals' ability to receive and transmit messages. The process involves more than simply decoding symbols on a page; reading and writing help an individual create and discover meanings and thereby promote the extension of his or her knowledge. However, any theoretical approach must be under-pinned by research evidence if it is to stand the test of time. A brief summary of the literature relating to the acquisition of reading skills by students with intellectual disabilities therefore follows.

In an extensive review of studies which evaluated the effectiveness of various approaches for the teaching of literacy skills to "mildly handicapped" students, Reynolds and Lakin (1987) found that: phonic approaches tend to be more effective than sight-word approaches in the early stages of reading acquisition, curricula should focus on mastery of basic skills, curricula should be individually paced, curricula should link instruction to the existing knowledge base, and teachers should control instructional behaviour.

There seems to be little, if any disagreement about any but the first of these statements, and it is this issue, the efficacy of phonic approaches, which will be explored further. A recent review by Conners (1992) concluded that both sight word and word-analysis instruction techniques are appropriate for the teaching of reading to children with "moderate mental retardation". In other words, Conners did not share the conclusion of Reynolds and Lakin that a bias towards phonic methods is desirable except in the area of "oral reading-error correction" (p. 591). Perhaps a pragmatic conclusion is to agree with Conners that both whole-word and phonic approaches are useful and complementary and still not sufficient.

There is a considerable volume of research relating to successful techniques for the teaching of reading skills. Rather than try to weigh up the relative merits of each technique (which is a thankless task, since the research designs and target groups are so varied), a few of the successful strategies will be described.

Demchack (1990) identified picture fading, picture integration and delay techniques as amongst the most studied techniques for acquisition of reading vocabulary. "Picture fading" and "picture integration" are scaffolding techniques which can take many forms. All have as their basis the pairing of a picture with a word. As the student acquires the sight vocabulary, the pictures are gradually faded out. The picture may be visually reminiscent of the word or simply a pictorial representation of the concept. This technique was found by Worall and Singh (1983) to facilitate the sight vocabulary acquisition of their group of "severely mentally retarded" children.

In another study, Smeets, Lancioni and Hoogeveen (1984) found that gradually changing pictures into words ("stimulus shaping") and gradually fading integrated pictures and words ("stimulus-connected prompt-fading) was more effective than picture fading. Therefore teachers interested in this type of scaffolding technique should consider integrating the picture with the stimulus word, and perhaps gradually merging the former with the latter so that eventually the word stands alone. A study using "symbol fading" is described in one of the special projects later in this Volume.

"Delay" techniques involve the teacher showing the student a word, asking the student to say the word and then providing a verbal prompt after a specified time-delay. Browder, Hines, McCarthy and Fees (1984), found the technique to be effective in a sight-word programme for "moderately mentally retarded" adults who had very limited sight vocabularies at the onset of the teaching programme.

A number of authors have reported that students with intellectual disabilities experience great difficulty in developing the speed and automaticity of word recognition necessary for fluent reading. Consequently, there is a continuing interest in decoding strategies, despite their relative decline in popularity in mainstream education in recent years. There are several reading programs in the market place that are based on a phonic approach. These programmes typically teach individual skills in a finely graded sequence, with progression from one stage to the next being dependent on successful acquisition of the earlier skills. An example of this style of programme is the DISTAR reading scheme which has received considerable attention internationally. Critics of the programme maintain that it is over-rigid, inhibits the teacher from working from an individuals' own language base, and divorces the activity of reading from other literacy activities. Advocates of the approach maintain that the formality of the program is its strength; the teacher is forced to teach skills in developmentally appropriate stages, and the emphasis on learning to mastery level increases the likelihood of the student retaining his or her new-found skills.

DISTAR is a program developed specifically for beginning readers with intellectual disabilities, and there are several studies supporting its effectiveness. However, as Gersten and Maggs (1982) reported after a five year evaluation, studies are never "pure" in the sense that DISTAR is almost always used in conjunction with other programs. Thus to ascertain whether gains in reading are due to DISTAR or other aspects of the overall programme is impossible to ascertain.

It was suggested earlier that the interactive view of reading combines elements of both the "top-down" and "bottom-up" approaches, since it regards reading as an interactive process in which both meaning and skill acquisition are essential. As far as selecting the best approach for adult students is concerned, Moyle (1991) supported the adoption of an interactive model, pointing out that the most likely route to success will almost certainly lie between theoretical extremes, and will include skill-acquisition teaching as well as an emphasis on meaning. Moyle described numerous approaches to the teaching of reading, including whole word/flash card methods, phonic skill and drill approaches, language experience methods and, most commonly, a mix of all of these. He concluded that: "there are no methods that are universally effective. Those that work for an individual learner, in light of his or her goals and needs for literacy, and the task requirements associated with those goals, become effective methods" (p. 48).

The teaching of writing

The literature relating to writing and adult learners with intellectual disabilities is conspicuous by its absence. The commentary that follows draws mainly from work which has analyised the development of writing skills in children or young persons.

Research on the teaching of writing has stressed the need for reading, writing and language activities to be inter-linked. For the adult learner with intellectual disabilities, the task of writing may be particularly daunting as the activity entails an additional demand; that of coordinated hand-eye movements. The adult student has the advantage denied to school students of being able to opt out of literacy programmes. Although there is no confirming research evidence it is suggested that adults may opt out of writing activities more quickly than reading activities since the former combines such a range of complex skills. It is therefore even more important to ensure that some degree of success is achieved at even the earliest stages of writing development. This may be hard to achieve.

The development of writing skills in children is thought to follow a progressive pattern in which a continuum of skills is developed. Calkins (1986) and Teale and Sulzby (1986) are amongst the authors who have confirmed that writing, more than reading, is an activity in which the successful student is required to move through developmental stages.

Heenan (1986) described these developmental stages as scribble, isolated letter, transitional, stylized sentence and writing. In the initial stages, the teacher can confirm with the students the meaning that they attribute to their work. In the earliest stages drawing and writing may be combined and be given a much more extensive meaning by the child than is apparent to the adult observer. Next, in the transitional stage, the teacher can encourage the novice writer to invent spellings and develop sentences. These will initially be short and stylised, but with confidence, and control longer and freer messages will emerge. It is at this stage that a whole range of facilitative techniques come into play.

Englert (1992) described a wide range of these techniques, which she categorized in three ways. Firstly, she discussed the need to emphasize the role of dialogue in writing development. Englert pointed out that writing is a process which requires the writer to commit to paper his or her private speech; this is a complex process which the teacher can facilitate by audibly modelling the strategies they use to put their normally silent thoughts into print. Englert quoted Rogoff (1990) in coining the phrase "cognitive apprenticeship" which is a process whereby a skilled language user models behaviours to a novice. Typically, teacher think aloud as they write, questioning the content, structure, spelling sense, and clarity of their work. Englert argues persuasively that this collaborative exercise greatly facilitates the development of appropriate skills in the novice writer. For students with intellectual disabilities who have difficulty generating and expressing ideas (i.e., producing oral vocabulary and reasonable syntax) the use of frequent teacher modelling of thinking aloud will be essential before the students with intellectual disabilities understand the process.

A number of authors have identified scaffolding techniques which have been found to facilitate the development of writing. Englert and Raphael (1989) described prompt sheets that were designed to remind students of the need for strategies such as planning, organizing, drafting, editing, and revising. Englert (1992) designed "think sheets" for use with students with learning disabilities. These were found to be effective with Englert's target group and it would be interesting to ascertain whether a similar approach would be effective with students with intellectual disabilities.

A number of authors have described the advantages of group activities for writing. Heenan (1986) pointed out that "conferences" can provide novice writers with an excellent opportunity to tease out what they want to write about, who they want to write to, and how they want to write before committing themselves to paper. This exchange of ideas and opportunity for peer- as well as teacher-feedback is seen by Heenan as essential if students are to enjoy acquiring writing skills. Moreover, the effective teacher can model appropriate strategies or prompt conference members as and when necessary. Once the students understand the process, Heenan argues that the teacher can become more and more invisible.

A similar process was described by Calkins (1986). She discussed a number of ways in which writing workshops can help emergent writers to reflect on a number of issues, including their audience, the form of their writing, the detail that is necessary, and the appropriate style to adopt. Although some of these techniques may seem at first to have questionable relevance to the student with intellectual disabilities who have limited language skills, they are almost certainly techniques that would be highly effective, since they emphasize the social-interactional elements of teaching and learning. Explicit instruction in group interaction, particularly in specific social skills will be necessary for students with intellectual disabilities, in addition to their participation in writing workshops. Furthermore, it now seems that modelling and scaffolding techniques are successful with both students with disabilities and their contemporaries.

Before leaving the topic of strategies for the teaching of writing it is important to point out that Englert's (1992) three year study of regular or mainstream and special education teachers found that the latter did not model effective writing strategies for students, despite having attended in-service training. Instead, they seemed to assume that writing skills would somehow develop simply by practice. Equally worrying was Englert's finding that special education teachers were more likely to present writing as a solitary activity. The students were therefore denied not only the benefits of collaborative exploration of ideas, but also the opportunity to extend and refine thoughts through language.

For some students it may be more appropriate to introduce compensatory aids if their lack of fine-motor control is such that it effectively inhibits them from communicating as they might wish. Snell (1987) has pointed out that it is far preferable to give a student a rubber stamp which is imprinted with their "signature", than to insist on endless tracing and copying exercises of their name. The decision to use "prosthetic devices" should lie with the student, who may well elect to continue with the fine-motor exercises as well as use a rubber stamp.

It is worth pointing out that in today's society, handwriting is a much less essential activity than reading. Moreover, concern about the reluctance of students of all types to persevere at developing writing skills has combined with an increasing decline on the traditional emphasis on grammar, sentence structure and spelling and a greater emphasis on the purpose for writing. This should be noted in the programmes for adults with intellectual disabilities. The emphasis must be on developing communication skills that reflect the wishes of the learner and these may well prove to be writing a diary rather than achieving such functional tasks as filling in a form.

An obvious growth area for the development of writing skills is the use of technology in the form of typewriters, word processors and computers. The two advantages that technology offers are the ability for the student to edit their work relatively easily and quickly, and the legibility of the finished product, especially if a large font has been chosen. The section of this Report that deals with the application of technology to adult literacy programs points out that there is as yet no clear evidence that the use of technological aids facilitates or accelerates learning; however, their use may well increase motivation, provide variety for the student, and alleviate anxieties about the aesthetic aspects of the finished product.

Finally, a brief mention should be made about the teaching of spelling. It has already been pointed out that in the initial stages of writing, children are encouraged to invent spellings whilst moving from pictorial representation of ideas to letter symbols to whole words. A number of researchers have suggested that students with intellectual disabilities have particular difficulty in generating spellings and recalling correct spellings Therefore, teachers should be careful not to take a negative view of incorrect spellings, lest the student lacks motivation or willingness to try to the point where he or she gives up.

Englert, Hiebert and Stewart (1985) developed strategies for improving the acquisition of new spellings, but found that although the strategies enhanced the learning of new spellings for the experimental group (including students with "mild" intellectual disabilities), there was no evidence to show that there was a generalization effect to reading tasks. The strategies that Englert, Hiebert and Stewart used involved linking new spellings with words already familiar to the student. The study, therefore ascertained that a strategy of linking existing spelling patterns to new words is effective in improving the spelling abilities of students with mild intellectual disabilities.

The question of how and to what extent spelling should be taught is relevant to the ongoing debate about the teaching of phonics. Since the purpose of writing is to record and convey meanings, and the purpose of reading is to decode and obtain meaning, then the function of spelling is to operationalize some standard agreement about the symbols, i.e., letters that are tools of this process. Alphabetic sounds are often taught and phonic skills developed. Thus a whole range of sub-skills is required before a student becomes a proficient speller.

This should not mean that teacher of adults with intellectual disabilities must abandon spelling as an activity. Farrell (1990) reported that her adults with intellectual disabilities had some knowledge of letters and letter sounds and that this enabled them to create their own written messages. The task for the teacher is to strike a sensitive balance between modelling appropriate spellings (so that the student is discouraged from retaining inaccurate spellings), whilst encouraging the student to continue an exploration in writing (so that anxieties about spelling do not inhibit the process).

Summary

This section of the literature review which focusses on reading and writing has emphasized the need for teaching programmes that incorporate a range of strategies. The significant issues for successful outcomes to teaching programmes have been identified and discussed. These will be seen to have relevance to the last area of literacy to be considered, mathematics.

The teaching of mathematics: General issues

An earlier section of this Report pointed out that the most recent national survey of Australian literacy attainment found that a significant number of the adults sampled could not attempt some of the computational tasks, let alone achieve success. Other authors, for example, Foyster (1990) have noted the aversion many students express towards mathematics. Although the reasons for this are not clear, Webber (1990) suggested that the mathematics taught in schools usually consists of a series of dry, disconnected activities which the student fails to perceive as having any meaning. If this is the case with mainstream students, then the lack of relevance or meaning is more than likely to be true for those with an intellectual disabilities. The need to identify effective teaching strategies is therefore critical.

It has already been stated that the acquisition of literacy skills, including numeracy skills, empowers the student. But empowerment will only become a reality if the skills that the student acquires are relevant to his or her world. At the risk of labouring a point already made several times, the mathematics curriculum for the adult students with intellectual disabilities must therefore be related to their individual life-style, their existing knowledge-base and their interests. For example, one student may have a strong wish to compute so that he or she is able to play a game involving dice. Another may wish to develop sufficient computational skills to budget a shopping list. Whatever the requirement, the successful teacher will start at the individual need level and subsequently build up an integrated curriculum.

Strategies for teaching

A comprehensive review of research relating to the teaching of mathematics to "mentally retarded adults" was completed by Mastropieri, Bakken and Scruggs (1990). The focus of their study was to describe current teaching strategies, discuss the efficacy of these strategies, and identify areas requiring further research. It is interesting to note that Mastropieri, Bakken and Scruggs (1990) reported that the median number of subjects in the 25 studies they examined was 8. This confirms once again the difficulty of making generalizations about appropriate methodologies for this target group, since most projects are on a very small scale.

Mastropieri, Bakken and Scruggs (1990) noted that the adult student with intellectual disabilities is likely to spend most classroom mathematics-time learning the basic numeracy skills of addition, subtraction, division and multiplication. Techniques found to be effective for the teaching of these, and other mathematics skills include drill and practice activities, the use of cognitive strategies and the use of scaffolding techniques. Each will be considered in turn.

Broome and Wambold (1977) found that drill and strategies were effective in teaching "mildly retarded" adolescents basic numeracy skills. Later research (e.g., Carnine, 1983; Lloyd, Saltzman, & Kauffman, 1981) have supported this earlier finding. Thus in the area of numeracy teaching, as in reading and writing, direct instruction methods have been found to be effective.

Research examining the efficacy of using strategies in teaching literacy skills is steadily growing, and in the area of mathematics there have been a number of studies which suggest that strategies facilitate the acquisition of mathematical concepts. However, as in the area of reading, there is some doubt as to whether a generalization effect occurs. Cullinan, Lloyd and Epstein (1981) found that teaching students with intellectual disabilities the strategy of "adding-on" aided the development of automaticity. Barrody (1988) found that training students to perceive numbers in the context of their "number-neighbour" and "number-after" relationships also facilitated the acquisition of basic numeracy skills.

The application of calculators to the teaching of literacy skills has received much attention in recent years, and as a national picture of poor mathematical attainments has emerged, so the acceptance of "prosthetic devices" has increased. In the U.S.A. there is generally a strong movement towards engaging calculators wherever appropriate. In Connecticut, for example, all students who are taking the State competency test are issued with calculators (Carter & Leinwand, 1987). Official approval for the use of calculators is given in the Australian Education Council national statement on mathematics for Australian schools (1991).

Despite the acceptance of the calculator as a compensatory or prosthetic device, what is perhaps not so widely recognized is that their use can facilitate the development of basic computational tasks such as counting and subtraction. Horton (1985) and Koller and Mulhern (1977) are amongst the researchers who have found that using calculators as temporary "scaffolding" can promote the performance of students in basic computational tasks.

Baturo, Cooper, Walter, Watsford and Watters (1990) pointed out that for adults with intellectual disabilities in the workplace, compensatory approaches to problem-solving often utilize strategies which enable a student to successfully complete a task which would otherwise be impossible. The use of keyboards, mechanical counting devices and inset boards enabled factory workers to complete tasks which otherwise would have been very difficult. As Baturo et al. pointed out after observing a number of work situations, numeracy is less important on an everyday basis for most workers. What is required, however, is lateral problem-solving approaches to practical tasks. Thus, a priority task for the teacher of literacy skills may well be to develop compensatory strategies which will facilitate an individuals participation in everyday activities.

Finally, mention should be made of two other areas of applied mathematics which are often targetted in teaching programs for students with intellectual disabilities: time and money.

The teaching of time is not easy with any student, due to the abstract nature of the concept. For this reason, the usual practice is to use tools which facilitate the process, and these include digital clocks, watches that "speak out" the hour, and the pairing of activities to time patterns. Similarly, the teaching of money will require individual treatment. Some students may possess the basic computational skills to work on costing out the ingredients for a recipe or household budget. Others may need to learn to discriminate between coins of different sizes so that they can give the correct fare to a bus driver, even though they are unable to calculate the values. The Section on Special Projects later in this Volume includes projects that incorporate mathematical concepts into their teaching programmes.

Summary

This section of the literature review is regrettably thin, due to the paucity of research examining mathematics programmes and teaching strategies for people with intellectual disabilities. It has been shown that mathematics programmes embody the concept of compensatory education more than do reading and writing programmes. A priority for further research should therefore be the exploration of additional compensatory or prosthetic devices which enable the user to function more effectively in his or her environment.

Chapter conclusions

The following is a brief summary of the conclusions found to be most important in the teaching of literacy skills, including numeracy, to adults with intellectual disabilities

> Adults with disabilities have learning behaviours that are very similar to those of their non-disabled peers.
>
> Learners with intellectual disabilities take more time to acquire a concept and less time to forget it.
>
> Experiential learning may not occur with this target group.
>
> Direct instruction programs have been found to be successful.
>
> There should be ample opportunity for over-learning to occur.
>
> Successful teaching methods include scaffolding, cognitive strategies and compensatory devices.
>
> Instruction should be well organised and goal-directed.
>
> Reading approaches which combine phonic and whole-word approaches in meaningful situations are thought to be most effective.
>
> The needs of the individual student should be considered.
>
> The curriculum should be relevant to the learners everyday environment.

READING MATERIALS

Suzie O'Hagan

Introduction and background

In order to develop literacy skills, individuals must have many opportunities to acquire and practice them. Opportunities for acquisition and practice may be available or created in structured learning settings or informal situations. While the purpose of many of the settings is to teach literacy for learning, individuals also use literacy skills in recreation and leisure. However, it is a truism that for adults or children to make progress with reading, and for their motivation towards the activity to remain high, suitable materials to read must be available. This section of the literature review will firstly attempt to define the desirable characteristics of materials for the target group, and secondly make brief references to materials in the market place and in use that may be suitable for individuals with intellectual disabilities. Thirdly, the issue of producing newspapers for people with intellectual disabilities is discussed.

During the process of gathering information it became obvious that the International Federation of Library Associations (IFLA) must take much of the credit for disseminating information world-wide about books and other reading materials for people with special needs. International development in computerised library resources and electronic mail services have resulted in libraries being in a unique position in terms of networking information about new developments in every aspect of book production. In addition, it is clear that many people working in library services have developed specialist interest and extensive knowledge in the area.

As early as 1977 the Dutch Centre for Public Libraries and Literature set up a committee entitled *Books for the Mentally Handicapped.* The momentum for producing quality books for people with special needs has continued to grow in Western Europe throughout the seventies, eighties and nineties, and in 1991 Russia held a conference focussing on the "Easy to Read" (ER) concept, thereby indicating that Eastern Europe also acknowledges a need for suitable resources for this population. In 1991 Sweden, Denmark, Finland, Holland, France, Norway and Poland were amongst the countries which supported some kind of formal professional group whose task it was to consider the identification, production and promotion of books which can be described as "Easy to Read". Starmans-van Haren (1991) has described the history of the main ER activities in Europe, and noted that one significant outcome is that several countries are now using ER logos to identify materials that comply with ER guidelines. These logos provide a means of instant recognition for the librarian, reader, teacher, and parent.

This high level of activity in Europe does not imply that there is universal agreement on ER concepts. Individual countries have inevitably produced a range of definitions which reflect differences in culture and educational philosophy. For example, the Dutch ER working party identified three target groups: "persons with an intellectual handicap", "persons with reading problems", and "pre-lingually deaf persons". The Swedish have taken a broader perspective, as they identified "the mentally ill", "the aphasic" and "the deteriorating aged" as target groups. Bellander and Lundstrom (1986) argued that ER target groups should include any people who "have problems of concentration or who are weak and tire easily" (p. 15). The problem with such a broad definition is that it encompasses such diverse needs. For example, the reading material requirements of the "frail aged" are likely to be very different to those of young children with intellectual disabilities.

Until further research is undertaken to examine the precise differences in needs for the various target groups it is impossible to say whether it is necessary to divide ER consumers into three groups (as the Dutch have done), or a larger number. One study which did attempt to establish whether different groups have different ER needs was conducted by Watson (1988). Watson interviewed four groups of disabled adults (those with psychiatric, intellectual or multiple disabilities, and those with brain injury or disease), and found clear differences in their needs. For example, Watson found that those with intellectual disabilities mentioned literacy for social outings (e.g., going to camp), whereas those with brain injury mentioned sedentary and small group activities. Her sample was small, however, and no definitive conclusions can be drawn until it is replicated on a larger scale.

Although there are some differences between nations in terms of target group identification, there is general agreement about the purpose of the ER concept. In brief, there is international acknowledgment that books, taped books and other reading materials need to be specifically designed for people with difficulties in reading. Those materials that are suitable for use with one or other of the target groups can be subtitled "Easy to Read". The ER movement also concerns itself with formal and informal advocacy, and with clear expectations as to the kind of outcomes it is seeking to achieve: i.e., it seeks to identify, promote and stimulate the production of reading materials that comply with specific ER criteria (see Marshall, 1990).

In Australia, the National Library has played an active role in advocating for the rights of adults with literacy problems, including those with intellectual disabilities. Their advocacy is not only with respect to suitable materials but also to promoting staff awareness of the needs of this group. In addition in 1990 the National Library initiated an international conference in Melbourne entitled *The Right to Read.* The conference papers are reproduced in the National Library of Australia (1991) publication *The Right to Read.* All of the papers make interesting reading, and clearly a wealth of ideas emerged from the Conference. This project wishes to endorse the following recommendations in particular:

(1) Australia must follow the lead of other nations and pursue the Easy to Read concept in a local environment (p. 135).

(2) The economies of scale in a country with a small population of around 15 million necessitates a National approach (p. 136).

(3) A small research group should be established which has the initial tasks of defining the ER concept in an Australian context, defining target groups, and agreeing upon an ER logo. Additional tasks will ensue, but assessing materials for their suitability for the ER logo should be a priority (p. 137).

(4) The group should ensure that it maintains an on-going dialogue with consumers, advocacy groups, authors, publishers, and the manufacturers of existing relevant resources (p. 135).

Many of the recommendations of the *Right to Read* conference have been subsequently incorporated in the eighth report of the National Advisory Committee, *Library Services for People with Disabilities* (1991). Recommendations which are of particular relevance here, and which are endorsed by those involved in this project are:

(1) The need to identify the numbers and requirements of the main disability groups requiring ER materials (see Objective 2, p. 17).

(2) The need to continually create ER material (see Objective 1, p. 17).

(3) The need to increase public awareness of the issues, and to improve the awareness of the target consumer groups of existing resources (see Objective 3, p. 18).

(4) The need to interest the publishing industry in the field with a view to increasing the range of ER books (see Objective 2, p. 17).

"Easy to Read" materials

An examination of the international "Easy to Read" (ER) literature concerning the desirable attributes of books and written materials for use with adult people with intellectual disabilities indicates that there is significant agreement on most of the key attributes. This is in spite of the fact that the research has taken place in countries where languages other than English have been the mother tongue, e.g., Sweden, Holland, Finland, Denmark, and Norway.

In Australia, van Kraayenoord (1991) has pointed out that although the range of students who have a need for ER materials is wide, it is possible to extract some guiding principles when discussing critical characteristics of these materials. However, as she stressed, it is most important that the adoption of these characteristics does not obscure the very real need differences of, for example, people who have intellectual disabilities and people with learning difficulties.

What follows is a summary of the key features which have repeatedly been identified in the literature as areas that must be considered in the design, writing and publication of materials for people who have reading disabilities. For convenience, the attributes have been divided into four areas: content, readability, design and publication. Finally, some materials that are currently in use and which are thought to be appropriate to the teaching of literacy skills to adults with intellectual disabilities are identified.

Content

All readers must be given books that have a high interest value and that are age appropriate. This is equally true for adults with intellectual disabilities. For authors of material for this target group the task is not easy, as, in the absence of research which examines the interests of people with intellectual disabilities, assumptions have to be made about suitable content matter. Until further research is completed it seems sensible to conclude that the target group will want to read about things that are already part of their lives, and that texts should be both narrative and non-narrative.

Watson's (1988) study of 23 people with disabilities supported this position. Watson found that the consumers identified a full range of literacy needs, including the reading of fiction (stories, magazines, books), non-fiction (TV guides, self-help manuals), and the learning of functional writing and maths skills.

The reading interests of a small sample of adults with intellectual disabilities have also been examined in a study undertaken as part of this Project. The results are found in a later section of this Report.

The current Dutch ER guidelines suggest that books should offer a single theme which allows the opportunity for expansion of existing knowledge, social experiences or emotional experiences. In this there is an acknowledgment of the role that literacy plays in facilitating an individual's exploration and understanding of his or her environment.

The need for a simple story line was also stressed by Marshall (1990). She pointed out that: "Many normal books even in adult literacy publishing are too difficult conceptually. The need is to limit the number of concepts line by line, per page, per book and to keep it sequential" (p. 104).

One of the recommendations of the Dutch ER guidelines which seems to have questionable merit is their suggestion that stories should have a satisfactory, and preferably hopeful, ending, and be realistic. These criteria seem to contradict one another. Moreover there is a hint of patronage in the suggestion that materials for adults with intellectual disabilities should have positive outcomes.

Readability

The concept of readability refers to the ease with which a person can read printed materials. Readability includes the reader's prior knowledge, purpose, understanding of vocabulary, interests and attitudes. Difficulty of material relates to the author's style of writing, purpose, organization of content, and the physical layout of textual material. Specific factors that are often taken into account when determining difficulty of material include language or vocabulary, syntax, and structure of content (see Hartley, 1982 for further details).

As far as language is concerned, the Dutch ER guidelines emphasized that most of the vocabulary in a text should be familiar to a reader and new words should, wherever possible, be accompanied by context clues and/or an illustration. They also recommended that abstract thought, figurative language, and irony should be employed sparingly or not at all, and always with appropriate explanations. Language should be natural with the consequence that contemporary colloquialisms are used.

There is some confusion over the issue of vocabulary. Clunies-Ross (1990), in discussing materials for young students with intellectual disabilities, made the interesting point that "too much reliance is placed on the child's spoken language as the basis for determining what will be read" (p. 42). Thus literacy learning may assist in development of oral language rather than being based upon it.

In another comment Clunies-Ross (1990) stated: "it is imperative that people with disabilities are not locked into a programme which restricts their potential for achievement" (p. 39). There is some research evidence to support Clunies-Ross' view. In a study of reading progress in adults using both vocabulary controlled and non-controlled texts, Eldredge and Butterfield (1986) found that the readers of the latter made better progress. It would appear that interest and motivation are more powerful determinants of reading progress than vocabulary.

In terms of syntax, there is general agreement that complex syntax should be avoided, and sentences should be short. This should not result in story fragmentation nor unnaturally abrupt sentences if care is taken to use linguistic forms that are already within the repertoire of the reader. Wherever possible, action should be in the present, and particular care should be taken not to confuse the reader with time-displacement into either the past or future.

As far as structure is concerned, there is agreement that stories should follow a clear plot or theme, without diversions or asides. If longer texts are written, the whole text should be broken up into chapters, each of which is capable of standing alone. This is more likely to give the reader satisfaction if he or she is only able to read a part of the book at a time.

Design

In considering appropriate design features, many writers have stressed the need for age-appropriate illustrations which contribute something to an understanding of the text. Bellander and Lundstrom (1986) suggested that "even poor readers can be reached with complicated messages presented in pictures, if the pictures have artistic authenticity" (p. 11). In another part of the same article they noted that the interplay between text and illustration is important; in other words, illustrations should contribute to an understanding of the text.

Bellander and Lundstrom's statement about ER texts in general may, of course, not be applicable to those with intellectual disabilities, but the Swedish State Committee on Spoken Newspapers (1985) (which has reported on one of the few projects to date which included feedback from people with intellectual disabilities) noted "illustrations are very important for the understanding of a text, but pictures must serve as unambiguous explanations in order to preclude misapprehensions" (p. 4).

There is some confusion about which typographical features are most appropriate for readers with intellectual disabilities. The Dutch ER guidelines suggest a type that is "large enough/not too large" which is somewhat vague, whilst the Swedish committee (1985) have surveyed the consumers of *8 Sidor* and reported that their readers (who had intellectual disabilities), did not express clear preferences about type size. Generally the view of the Swedish committee prevails, with ten or twelve point type print size being the most favoured, along with the use of a font that is precise in letter outline.

It seems that in the area of book design commonsense prevails rather than research data. As van Kraayenoord (1990) has pointed out, the important thing is that the chosen font should be easily legible, page layout should be carefully considered to ensure an absence of clutter, and the overall appearance should be attractive.

Authors and publications

After completing an international survey of books which could be described as coming under the broad ER umbrella, Marshall and Porter (1990) concluded that "for those with intellectual disabilities, a mental handicap or learning difficulties, there is a dearth of book and related media that is both age-appropriate and ability-appropriate" (p. xi).

One of the most obvious reasons for this paucity of materials is that the whole ER movement is relatively recent. However, even supposing that the needs and wishes of the target groups were clearly identified, ER guidelines were generally agreed upon and funds were available to produce new books, there would still be a need to work closely with authors to ensure that when they write within ER guidelines their materials do not become dull and pedantic. As Bellander and Lundstrom (1986) have pointed out, the task for authors is firstly to take a theme which is topical and interesting to the audience. Next, the theme or story has to be written in accordance with ER guidelines.

Bruhn (1990) summarised the Scandinavian scene and made the observation that sophisticated writers can become highly successful ER authors if they comply with the core features of high interest-low complexity. Bruhn (1990) reported that imaginative approaches have yielded positive results in Sweden, where the ER Foundation has approached well-known authors to encourage them to become involved in the production of ER books. Strategies for engaging their enthusiasm have included author-in-residence seminars, competitions and advertisements. Bruhn has reported: "a very sophisticated established poet, whose works were mainly of interest to literary critics, became an ER author, learnt simplicity and became a most powerful writer and poet" (p. 12).

If some of the methods used in Scandinavia to engage authors in the ER process are pursued there should eventually be a much better choice of interesting, age-appropriate texts for the target group. However, it would be naive to ignore the commercial difficulties of publishing books for what is a relatively small market. As Boyd (1991) has pointed out: "A book which will sell twenty thousand copies in the United States will probably sell five thousand in Britain and two thousand in Australia" (p. 130).

A novel way of tackling this problem in Holland was described by Starmans-van Haren (1990). In 1988 the idea of a "Tuppence Campaign" was born. This entailed increasing the price of all books by twopence (5 cents) and donating the tuppence to the ER Foundation. Although the idea is interesting it is perhaps unfortunate that it sought to take money from one group, booksellers, that is keeping the publishing industry alive.

Booksellers would argue, with some justification, that they have enough problems in marketing their wares in a depressed economic climate without being forced to make contributions to a minority group.

It may be that some form of Government subsidy is essential if minority groups are to be genuinely given the same literacy opportunities as the community at large. This is an issue that requires urgent examination in the Australian context. Perhaps a "think-tank" could be asked to devise innovate solutions to the problem which would have the same public appeal as, say the "red nose" day. This could also be one of the tasks for a National ER task-force as recommended in an earlier section of this Report.

Summary of "Easy to Read" characteristics

In the absence of Australian ER guidelines it seems useful to list the key characteristics of ER materials which are suitable for adult students with intellectual disabilities. The following list is not exhaustive, but includes those factors deemed by researchers in Australia and overseas to be most significant. Materials should:

- be age-appropriate
- provide the opportunity for knowledge extension
- have high interest value
- be meaningful to the audience
- have a simple sentence structure
- follow a logical progression
- use natural, colloquial language
- avoid complex syntax, ambiguities, and abstractions
- avoid time displacement
- incorporate attractive illustrations which aid understanding of the text
- be presented in a clear, uncluttered format, and
- use the best techniques of authorship to avoid becoming pedantic (e.g., a lively style, humour, rhythm).

Current "Easy to Read" resources in use in Australia

A comprehensive review of resources for adults with an intellectual disability was recently produced by Marshall and Porter (1990). Since this publication is the only one currently available in the English language that covers this field, it is an essential text for anyone seeking information about suitable resources.

The book is divided into three main sections: print materials, audio-visual materials and tutor materials. Each entry is given a "star rating" according to its level of complexity, and descriptive and critical comments are made about every item. The three main sections are sub-divided according to topic, using categories such as "Cookery and food", "Fiction", "Language and learning to read" and "Transport". The book also has a directory of publishers. Although these addresses are in England, all have Australian agents who can be readily located via a bookshop.

Publication of "Easy to Read" materials have also been undertaken by The Redfern Legal Centre. *"Streetwize Comics"* [1] have produced materials on topics such as discrimination and drugs and alcohol. More recently the Intellectual Disability Rights Service of the Redfern Legal Centre has published *Rights for All*, a magazine for people with intellectual disabilities. While there may be some debate about the effectiveness of these materials, attempts to produce materials for people with intellectual disabilities must be encouraged.

One questionnaire in this project sought to determine what materials are currently in use in literacy programmes. A descriptive list of resources that were identified as being used with the target group of this study is included in Volume 3.

Taped and "Talking" Books

In order to support individuals with reading, printed materials have been taped. These taped or talking books can be listened to, or listened to while reading. A recent ILY project report *Roundtable on Materials for Print Handicapped Readers* has indicated that while many users of the talking book and tape/text kit products are people with visual impairments, a broader clientele could also access these services more extensively (Peat Marwick, 1991). This could include individuals with intellectual disabilities. The report by Peat Marwick (1991) does indeed identify those with intellectual disabilities as potential users of talking book services. Members of the Steering Committee of this Project affirm the recommendation of the *Roundtable on Materials for Print Handicapped Readers* that "liaison be maintained between print disability providers and organizations serving the needs of the literacy disabled, regarding the planning and delivery of services and products" (p. 7). In addition, the Steering Committee endorses the recommendation that "Talking book and tape and text services be provided to those whose primary disability is a literacy impairment, regardless of its cause" (p. 8).

The Australian company Narkaling Productions specializes in the production of taped books so that adults are able to follow print whilst listening to a tape. The company is currently the only one in Australia to focus solely on this field, and as its product range expands it will become increasingly valuable to those adults who enjoy books that talk.

A noteworthy feature of the Narkaling materials is that the company is constantly experimenting and modifying its products so that the materials truly reflect consumer needs. As a result, many of their materials are available in a range of different taped speeds so that the consumer is able to choose that which is most appropriate to his or her needs. Speed levels of the Narkaling materials vary from a slow 40 words a minute to the usual 170 words a minute; thus the range is extremely wide.

The current Narkaling catalogue does not distinguish between the differing needs of the various target groups who might wish to purchase or borrow their materials. The books are divided into 13 sections which include "Particularly for young children", "Collins English library series", "Poetry" and "Assorted Fiction". Entries in some, but not all, of these sections are accompanied by brief comments about the story, print size and illustrations; however the directory does not give any consistent overview or recommendations about the suitability of the books for the adult reader who has intellectual disabilities. It is to be hoped that further refinement of the catalogue will occur, so that potential consumers are encouraged to access those materials which have particular relevance and interest.

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[1] *Streetwize Comics* can be obtained from 3 Queen Street, Glebe NSW 2037 (Ph: (02) 552-3499). *Rights for All* can be obtained from 73 Pitt Street, Redfern, NSW 2016 (Ph: (02) 698-7277).

Newspapers and "Easy to Read"

If people with disabilities are genuinely to have the same rights as those without disabilities, then ways must be found of making local, national and international printed news items accessible to them. Once again, there are some lessons to be learned from Europe, where ER newspapers have met with mixed success.

The Swedish paper *8 Sidor* was first published in 1984, and its future seems assured with its current subscription level of over 6000—and this is in a country with a population only half that of Australia. *8 Sidor* is a weekly newspaper for people with intellectual disabilities and was the result of pressure groups demanding that the Swedish Ministry of Culture made easily comprehensible news available to people with intellectual disabilities. As Bruhn (1990) has reported, the Swedish have been careful to continually evaluate their publication, using direct consumer feedback as their main source of information. It is probable that this willingness to constantly modify the newspaper in accordance with consumer comments is the key to its success. Another important feature of the newspaper is that it is also available in a taped version, so that readers may choose to read, listen, or read and listen to the text.

A less rosy picture of the success of a newspaper for those with intellectual disabilities emerges from Finland. In that country, government funding was given to a newspaper which was asked to produce an ER version of their existing publication. The experiment was not a success, and one of the conclusions must be that there must be a total involvement with the consumer groups and their advocates if this type of enterprise is to succeed. The ideal would be a partnership between editor, reader and publisher, and if any member of this triad is absent, success is unlikely to ensue.

In 1992 other countries are engaged in producing newspapers for people with intellectual disabilities (e.g., Norway). There are also strong arguments in favour of promoting the concept in Australia.

Summary

Appropriate reading materials for learning and recreational purposes are essential for people with intellectual disabilities. Two Australian documents produced by the National Library of Australia, *The Right to Read* (1991) and *Library Services for People with Disabilities* (1991) have made recommendations which include pursuing the "Easy to Read" (ER) concept and associated steps required to make this pursuit a reality. This includes defining the concept and identifying the target groups, their numbers and needs related to ER materials. The creation of a small research group (a National ER Task Force) has been called for to undertake these and other related tasks.

It seems likely that as in the United Kingdom, Australia has a dearth of interesting, age-appropriate, ability-appropriate materials for people with intellectual disabilities. This study sought to establish the materials being used with adults with intellectual disabilities in teaching contexts. The findings reported in a later section indicate that much of the material is teacher-made, thus suggesting a lack of suitable materials. The position with respect to reading materials for recreation/leisure it is argued are no better, and may indeed be worse. One of the main recommendations from this Project would be to undertake a more in depth and comprehensive documentation and evaluation of the literacy materials available for individuals with intellectual disabilities. This would require a research investigation of not only the availability, but also an investigation of the quality of the materials.

In order to rectify the problem of lack of materials, innovative solutions need to be fostered. This could be done by the ER Taskforce that has been proposed in earlier reports.

It is clear from this review that there are key features of materials that relate to the content, readability, design and publication of reading materials that should be taken into account when producing materials for adults with intellectual disabilities. The association of publishers, librarians, teachers, advocates and most importantly, adults with intellectual disabilities with the ER Task Force is necessary so that these features can be included in future publications.

The need for people with intellectual disabilities to have access to news and current affairs has been recognized in some countries. In this country, we need to explore the viability of producing a newspaper for people with intellectual disabilities. While there may be some debate about whether this should be a new, separate paper for adults with intellectual disabilities, or that a whole newspaper or sub-section of an existing newspaper be developed for adults with intellectual disabilities, it is suggested that this is a project worthy of investigation.

Finally, apart from a limited investigation in this Project of the reading interests of adults with intellectual disabilities, little is known about their literacy interests and habits. More extensive research is required in these areas so that recommendations about the production of reading materials for adults with intellectual disabilities are based on empirical data.

TECHNOLOGY IN ADULT LITERACY PROGRAMMES FOR PEOPLE WITH INTELLECTUAL DISABILITIES

Peter Pryce-Davies and Suzie O'Hagan

Introduction

The inclusion of technology in education has provoked a range of reactions from the various stakeholders during the recent period of its phenomenal rise. To some it is a panacea, to others anathema. Some view its impact with suspicion, seeing its adoption largely as manipulation by high-technology commerce; others see it as a major part of the rejuvenation of an education system which has failed to meet the needs of its clientele.

Perhaps a balanced view is that technology can be a useful tool in the hands of a creative teacher, and that it reflects rather than defines the educational context in which it is used. In relation to some people with disabilities, it has unquestionably revolutionised their lives; for example, talking computers have opened up new recreational and vocational opportunities for people with visual impairments, and electronic communication systems have put people isolated by severe communication impairments in touch with the speaking world as well as their peers.

Predictably there are very different interpretations of the term "technology". Some writers (e.g., Parette, 1991) use the definition proposed in the American Technology-related Assistance for Individuals with Disabilities Act of 1988. This views technology as any equipment that can be used to improve the functional abilities of people with disabilities. As Parette has pointed out, for persons with mental retardation or intellectual disabilities, this would include computer applications, videodiscs, electronic interfaces, augmentative communication devices, microswitches, and environmental control systems. The problem with the definition is that it stresses the functional outcomes of technological devices.

Anderson (1990) has suggested that it is preferable to adopt a wider definition of technology, in line with the 1989 Report of the House of Representatives Standing Committee on Employment, Education and Training (the Brumby Report). This stressed that "technology" must mean more than just equipment; it must also refer to the usage of the equipment and the learning experience provided.

This project accepts Anderson's view that it is preferable to consider educational tools in the context of their application, but whether that necessitates a continual redefining of the term "technology" in the light of new advances and applications is unclear. Perhaps it is preferable to take a more relaxed attitude and accept that new educational equipment is usually produced with some specific outcomes and teaching application in mind. The task for the teacher is to ensure that enthusiasm for new technologies does not obscure the need to examine their application.

Background research

It is curious that although the development of new technology for educational purposes is one of the fastest growing areas in education today, conclusive research evidence to support the application of the resulting resources is lagging behind. Since new materials are continually appearing it must be concluded that the market is strong; were that not the case, commercial manufacturers would simply cease to up-date and expand their range. One of the aims of this project was therefore to discover to what extent these materials are being used in literacy programmes with adults who have intellectual disabilities.

Predictably, the research evidence on the application of technology to students with special needs is especially thin, and if the field is narrowed to a consideration only of adult learners and literacy programmes, the available evidence shrinks even further. That is not to say that there is no material to examine, but many of the published articles discuss case studies rather than experimental evidence.

There is no consensus in the literature about the value of engaging technological aids programmes used within literacy learning programmes for people with intellectual disabilities. Whether this is due to the current lack of empirical research, or disagreement over educational objectives, the debate in this area is vigorous and writers are wary of making generalisations.

Russell (1986) pointed out that there was no hard evidence in 1986 to support the view that the application of micro-computers in special education would result in positive outcomes for students. Some three years later, Hasselbring and Goin (1989) pointed out that the application of micro-computers to the instructional programmes of learners with mild disabilities was still at the embryonic stage. They also stressed that it is important to capitalize on the strengths of the technology and minimize inappropriate applications.

Finnegan and Sinatra (1991) completed a review of computer-assisted instruction with adults. They suggested that one of the most important reasons for success in teaching programmes that use computers is the increased student motivation. However, this could simply be due to students feeling fresh energy when presented with a novel teaching method. The important issue for teachers and tutors to remember is that computer-based learning can quickly lose its novelty and become as repetitive as any other technique.

In an attempt to quantify the arguments about the motivational aspects of computer-assisted learning with students described as "mentally handicapped", Gardner and Bates (1991) used a structured interview technique to ascertain differences in student attitudes to working with, or without a computer. They found that although 80% of their sample of 59 students expressed strongly positive attitudes towards computers, only 39% believed that their best work was done at the computer. Gardner and Bates concluded that it is particularly important with "mentally disabled" students to ensure that they are secure with the technology that they are given. User-friendly packages are obviously essential, and care needs to be taken to ensure that students are confident about what is expected of them.

Wangberg (1986) used an interactive, language experience approach which included micro-computers in the teaching of reading to adults. He found that his control group of students (who did not use microcomputers) did not make the same gains in reading as his experimental group, despite receiving the same number of hours of instruction. However, whether this encouraging result will be achieved with adult students who have intellectual disabilities remains to be seen.

In an overview of micro-computer applications in special education, Hasselbring and Goin (1989) reported that skill and drill programmes are by far the most frequent. This type of programme is designed to provide practice in previously acquired information, and it is true that the computer can provide seemingly effortless repetition. However, this application has been strongly criticised by many writers. Carlson and Silverman (1986), for example, have pointed out that the computer is in danger of becoming little more than an expensive electronic worksheet.

The efficacy of skill and drill programmes continues to be the subject of considerable debate. Hasselbring and Goin (1989) reported that the research evidence to date indicates that using computers for skill and drill practice without additional instruction does not lead to fluency. Citing a number of studies in the area of fluency in mathematics and reading, Hasselbring and Goin concluded that the most effective use of computer drills is to make them serve as a tutor during the initial, i.e., acquisition, stages of learning.

Turner (1988) has pointed out that an important feature of computer programmes for adult learners is that they empower the learner. This is particularly true of desk-top publishing packages, where the student can use graphics to create a visual picture that is virtually only limited by his or her imagination. Once again, it is important to stress that a sense of inadequacy, rather than achievement, is likely to develop if the necessary attention is not paid to ensure that the adult learner with intellectual disabilities understands how to use the equipment and what the parameters are of the software being used.

Finally, Hawkridge and Vincent (1992) reported on a number of studies in which computer programmes had been used with special needs students, including adults with intellectual disabilities. Unfortunately, many of the papers described by Hawkridge and Vincent have not been published and/or are in anecdotal form. Although Hawkridge and Vincent concluded that there has been little further advance in defining precisely how, and to what extent, computer applications facilitate learning, the body of evidence that describes positive outcomes continues to grow.

In 1992 it is still not clear to what extent the use of technology enhances or facilitates learning, if at all. Therefore, there is a need for controlled empirical studies of the use of computer technology for adults with disabilities as they acquire and develop literacy skills.

An overview of technology for people with disabilities

One of the first obstacles to overcome in considering the application of technology is how to conceptualize those resources that are available.

The 1987 "National Information Statement: Teaching, Learning and Technology in Special Needs Classrooms" (Pryce-Davies, 1987) was published as part of the "Special Education in Australia" project sponsored by the Commonwealth Government. This document proposed a model of grouping enabling technologies according to their functional need, rather than using the more traditional approach of grouping resources according to the disability group for whom the materials had been designed. Thus the model identified technology used in the enhancement of:

- access to learning, both physical access and curriculum access;
- learning itself, in relation to skills, attitudes, and concepts;
- motivational power, particularly in regard to behaviour, social and emotional development; and
- teacher tools, to give teachers more time with their students.

This model was used as a conceptual framework for analysing the case studies which were subsequently described in the document. These case studies illustrated successful outcomes for both students and teachers. Subsequently major technology clusters were defined as follows:

- add-on software and hardware which allows people with physical disabilities to use computers at the same level of functionality as more able peers, if not in the same way (e.g., by using scanners, keyboard emulators, voice controlled computer systems);
- voice synthesizers which can restore oral communication to those who have lost it or not developed it, or that can be used in systems which read books and computer screens for blind users;
- software used by those who have not been able to formerly achieve their best, but who are enabled, by the application of software, to produce work of a much higher standard, in terms of quality and presentation than previously; and

- software designed according to modern educational principles and which has been adapted to develop the learning of those affected by an impairment, whether sensory, physical, intellectual, or a combination.

Software is the key factor influencing learning and motivation (Pryce-Davies, 1987). Any piece of computer hardware no matter how technically advanced, is only as good as the software available for it to run (see discussion of the Cerato Project below). Without appropriate and effective software designed to meet a user's particular capabilities and needs, the most sophisticated machine available will be virtually useless.

Although the following list is not exhaustive, some of the types or genres of software currently in use within literacy education and adult training programmes include:

- interactive fiction;
- text adventures;
- simulations;
- databases, spreadsheets, and graphs;
- word processors; and
- desktop publishing packages.

To this list could be added telecommunication packages which link computers in different locations together, and allow people with literacy (and other) deficits to communicate with peers. People isolated by their disability can thus communicate with the same ease, and for the same reasons, as ham radio operators, and citizen's band radio users, but with the added useful anonymity provided by the computer modem. They also have the further advantage of being able to compose a message carefully and in their own time off-line, correct mistakes, and then send it as a well-finished product to their computer correspondent, who may never know they have a disability at all.

Availability of appropriate computer software

To attempt a survey of current, age-appropriate, quality computer software designed specifically to meet the literacy needs of adults with intellectual disabilities is an impossible task, since at present none exists. In the scant literature on this topic which is both available and still relevant, few writers have even advanced a theory as to why this is so. Even if the focus is widened to include software development for persons at all age levels who have any type of cognitive difficulty, recent writers like Hawkridge and Vincent (1992) in the United Kingdom, and Middleton (1990) in the United States still report a similarly depressing scenario.

It appears likely that the reason for this dearth of material lies in the size of the market for such software, or at least the perception of its size. Even in the case of mainstream educational computer software, it is certainly true that for it to become a commercial reality, its potential market needs to be global, and the most successful packages typically sell hundreds of thousands of units worldwide. Just to "break even" with regard to research and development costs, a typical package requires tens of thousands of sales over its "shelf-life". Therefore, a market which is highly specialised will seldom interest commercial software publishers or developers. (There have been exceptions, however, even in a country with a small population such as Australia—see discussion of the Cerato Project below.)

Reference was made above to the perceived size of this market: however, until comprehensive international research has been conducted, it cannot be accurately established how large the actual demand might be. It is suspected that with a global focus and some creative development strategies, this situation might be improved upon.

Given the fact that virtually no software has been specifically designed and produced for the target group of this project, does not, however, mean that nothing is happening with computers and students with intellectual disabilities. The results of the various questionnaires that were completed for this project indicate that activity is occurring. Whilst waiting for the current lack of resources to be met, people throughout tertiary education have set about identifying existing mainstream educational, commercial and recreational software which appear to have potential. In some instances, there have been attempts to adapt it to increase its usefulness in literacy programmes for adults with intellectual disabilities.

Characteristics of software currently in use

Although targeting adults with specific learning difficulties, Taylor and Thomassen (1991) identified a range of desirable characteristics for software useful in adult literacy programmes. Their survey criteria included reference to:

- the use of both content-free framework programmes, and specific content strategy-building packages;
- a direct link to useful life outcomes e.g., enhanced vocational or recreational opportunities, or improved interpersonal communication or social skills;
- effective and appropriate pedagogical principles in relation to accepted practices in adult literacy programmes;
- the importance of flexibility, interest, and motivational power;
- user-friendliness and ease of use, with the availability of a contextual help facility;
- adaptability, particularly in regard to programmable response time and customisation for different users;
- appropriateness, immediacy, and range of feedback given to the user;
- clear and modifiable on-screen presentation in areas such as screen font size, case of letters and colour scheme (the latter being particularly vital where the user has a visual discrimination problem); and
- reasonable cost, backup policy, value for money, programme shelf life, and availability.

Male (1988) suggested six guiding principles for the selection of software for special educational needs. While essentially similar to those criteria listed above and below, she emphasises the importance of empowering the users to do something they wanted to do, but could not do otherwise. She also highlighted the need for software to do more than simply urge the user to "try again" after an incorrect response. A good example of the personalised feedback she favours can be found in Googol Maths (see below).

Anderson (1990) claimed to have developed a process for evaluating the potential of technology in adult literacy programmes, although he defined technology in a very much broader sense. Anderson's system utilised a series of focussing questions about technology prepared for, and by, administrators, teachers, and learners. He seeks to quantify these answers by asking respondents to rate each area of investigation using a semantic differential scale. The questions he asked were grouped according to the three different respondent groups, but overall they cover much the same ground as our lists here. What is interesting in Anderson's work is that it attempts to produce some results which could be used as a more objective basis for decision-making in adult education programmes which seek to utilise appropriate technology.

Whilst Treloar (1990) is critical of Anderson's approach and conclusions in several respects, particularly disagreeing with his definitions of literacy and literacy curriculum goals, she did agree that empirical research is required in this field if any real progress is to be made.

It can be concluded that the principles underlying good software design for the general educational market apply equally to the target group for this project. This project therefore recommends that software should:

- be based on good pedagogy;
- have clear educational objectives;
- be related closely to the curriculum;
- be highly motivational;
- possess an easy and helpful user interface;
- allow for individualisation; and
- should represent good value.

With these principles in mind, the following section describes software packages which have been used, or seem to show, some potential for future use with the target group.

Specific software titles

To examine every type of technology in relation to adult learners with intellectual disabilities would be a forbidding task. Instead, this section of the report will give a brief outline of the types of hardware and software which are most relevant to the teaching of literacy skills to adults with intellectual disabilities and discuss in some detail some examples of software programmes which are considered to be particularly useful with this target group.

A recent SPELD report (Taylor & Thomassen, 1991) has attempted to identify software that may meet the needs of adults with learning difficulties in the area of literacy. This document is not a critical and comprehensive appraisal of all available software based on a process of rigorous formal academic research, but it is nevertheless a practical and useful list for those starting the process of selecting software.

The SPELD report includes a comprehensive list of reviewed software containing many titles which are also of use by or with adults who have intellectual disabilities. Details of price and availability of the various packages can be found in the SPELD document.

The list that follows is derived from the software reported as being used by the respondents in our Review of Courses Questionnaire, from the SPELD document and from the knowledge and experiences of one of the authors (Pryce-Davies). The few titles are selected as examples for specific discussion, and should not be taken as anything like an exhaustive list. Most were rated as "very good" or "excellent" in the SPELD survey, and most are regarded as among the best of their genre. They were likely to have been mentioned by at least one of the respondents of the surveys completed for this project. The computer system/s for which the package is available appears in brackets after each title is listed.

Children's Writing and Publishing Centre (Apple II, IBM)

Accepting the possible difficulties presented by the title, this programme is nonetheless an easy-to-use desktop publishing system with which illustrated newsletters and stories can be produced. An easy user interface with icons, pulldown menus and mouse control makes the programme very accessible and allows the user, or a small group of users, to incorporate adult content in writing activities, and then to add illustrations from the stock of clip art provided. The motivational value of such software is very high; using such tools people are able to produce high-quality output, perhaps for the first time. This has a flow-on effect to other areas of endeavour, as confidence and self-esteem build.

Print Shop (Apple II, IBM)

Even easier to use, albeit more limited in the scope of products possible, this programme allows the user to produce calendars, signs, greeting cards, banners and letterheads via a step-by-step process of composition using menus. One major strength is the absolute consistency of the user interface. Each step flows naturally to the next: choosing a border, typing in lines of text, choosing a graphic from the picture gallery, and so on until the final product is printed. At any stage, pressing the escape key will take the user back one step, and onscreen help is always available. The results of choices are shown on screen for confirmation before the user is irrevocably committed to a course of action, and even then the escape key can be used.

Pendown (Archimedes)

A useful combination of comprehensive word processing features with an iconic, easy to use mouse interface, *Pendown* comes with four extension programmes including an adventure writing feature (see Bush Rescue below). This allows the teacher/instructor or the user to produce language experience material that is stimulating, and based on the environment and vocabulary that is important or useful to the adult user.

Paws (Apple II)

A number of service providers and care givers have noted the usefulness of programmes which develop keyboarding skills, and this programme figures prominently in those case studies. Most typing tutors are designed for commercial typing courses or home study by people aiming at becoming touch-typists. These programmes are generally unsuitable for persons with intellectual disabilities owing to their complex user interface, and therefore a school-oriented programme like *Paws* may be more useful while not being obviously age-inappropriate (as a programme like *Stickybear Typing* would tend to be).

The need to use typing tutor software at all is related to two issues. Firstly, the need to share computers at home or in the place of training may necessitate an improvement in keyboarding speed. Secondly, recreational (and perhaps vocational) opportunities afforded by facility with such tools as word processing and electronic mail become more practical with an improvement in keyboarding skills.

Maths for Everyday Living (Apple II, IBM); Maths Blaster (Apple II, IBM); Googol Maths (IBM)

The first programme, *Maths for Everyday Living*, is one of a number of programmes made useful by a "life skills" approach. It covers maths operations in the context of such situations as paying for a meal, shopping, working out transport costs, and overtime and net pay calculations. Although most of these packages follow a "drill and practice" model, the better examples of the genre may in fact be quite useful to our target group, provided they adhere to some modern pedagogical principles. As already discussed, they should hold interest, they should offer tutorial assistance when problems are encountered, and they should allow for some free choice in the path of learning to be followed. Too often in the past, these programmes slavishly followed a very prescriptive set of activities with little or no opportunity for variation, substitution, or optional extra practice.

Maths Blaster is a popular drill game which is widely used in schools and in remedial programmes. It attempts to make drill and practice more palatable by placing it in the context of an arcade game. However, it does not have the personalised feedback which is highlighted by Male (1988) as being important.

In this regard, the third programme is a much better example of the drill genre from within the shareware arena. (*Shareware* is a class of software marketed in an alternative manner by sharing it around free of charge, but then obliging the long-term user to pay a fee to the programmer for continued use.) A shareware programme for the IBM called *Googol Maths* has been used with adults as a basic mathematical operations drill programme. Within a suite of interesting and stimulating game scenarios, the basic operations are drilled, allowing the user to choose from a range of speeds and difficulty levels. What is particularly interesting about *Googol Maths* is that if difficulties are encountered with a mathematical calculation, an on-line tutorial can be quickly accessed which will take the user back to first principles using pictographs to build an understanding of the operation. Then, when the student has grasped the problem, the programme returns to the drill. Of course, no on-line computer tutor will ever replace effective teaching with concrete materials by the best human tutor. But this type of programme does what it does very well: if drill and practice is required (and it does appear to have a place in building confidence with basic concepts of numeracy and literacy), then this is a good example of how it can be provided effectively.

Mindreader (IBM)

Another shareware offering, and another fairly complex, fully-functioned word processor, *Mindreader* has one particular function very useful for those with literacy problems—it is a predictive system. As the user types text, an artificial intelligence module keeps track of what is typed, and then pops up a window on the screen in which appears a set of possible word endings from which the user chooses the required one. For example, if a student commences typing the word "morning" using *Mindreader*, as soon as he or she had typed the "m-o", a window would pop up with e.g., "mowing", "morning", "moaning" etc. Next to each item in this pop-up menu would be a number, from which the student would choose the desired word. Of course, this is dependent on the user knowing the correct spelling and having a reasonable sight vocabulary, but another very useful feature of the system is that it gradually learns the user's own vocabulary. Thus the more the person uses a particular word the more likely it will be in the pop-up list.

The programme also checks spelling as the user types. Words the programme thinks are incorrectly spelt (or which it doesn't understand), will simply change colour as they are typed, and the user can make corrections immediately, or later. Unrecognised (but correct) words like proper names can be added to the inbuilt dictionary.

Some of the newer computer systems have optional operating system enhancements which are predictive. In these cases all input to the computer is "watched over" by a predictive parser which offers word (or command) completion options to the user. This can also be of value to the slow typist, including the user who has poor motor skills.

First Choice (IBM); Microsoft Works (Macintosh, IBM)

These two programmes are integrated packages, incorporating modules for word processing, databases, spreadsheets and telecommunications. Data and text can be swapped between the modules easily via an electronic clipboard.

Their advantages for the adult user with intellectual disabilities are that they are again very user-friendly, conforming to the WIMP (windows-icon-menus-pointer) graphical user interface that is fast becoming standard on all personal computer systems. Secondly, the integration of the several modules may make the task of using the subsystems easier for the disabled user. As the commands and menus are similar from one module to the other, once one has learned a particular module, the others, being consistent, are more easily mastered. In other words, skills are more easily transferred.

Thirdly, these programmes are adult programmes, and come a lot closer to the industry-standard packages used by adults in mainstream life and commerce. Indeed *First Choice* and *Works* are both used in some offices, tertiary institutions, and in many homes. A word of warning should be sounded, however. In stating that they are closer in appearance and operation to mainstream products than most of the other packages mentioned here, it also follows that they have a higher level of overall complexity.

Bush Rescue (Apple II, Archimedes)

This programme is a member of a fairly new genre called educational adventure games, whose principal strength is that they make learning an adventure. Jacaranda-Wiley (an Australian company) has produced a suite of highly successful adventures like *Bush Rescue, Dinosaur Discover* and *Kraken*, which have also been successfully exported overseas to Britain, Canada, and the United States.

In these programmes, the user, or a group of users, embark upon a quest to solve some sort of problem. Along the way they learn vocabulary, develop thinking skills and strategies, and maybe even pick up some content if only serendipitously. All of it is such fun that students often remark that it is not like "proper" work at all, not like mathematics and science and history and geography, although learning in those (and other) areas is precisely what is occurring. Adventure software is marked, however, by an emphasis on processes rather than content, and skill development is one of its principal hallmarks. Also, these programmes are often challenging enough to be attractive to adults without representing overt age-inappropriateness.

Magpie (Archimedes); Hyperscreen and Hyperstudio (Apple II, IBM); Hypercard (Apple IIgs, Macintosh)

The newest of all the software genres is *hypermedia*. These packages have taken the education and training worlds by storm recently, although as yet there tends to be more "hype" than actual "media" produced. Hypermedia is difficult to describe succinctly, but it is essentially a system for integrating divergent types of media into a cohesive and motivating computer presentation of information. Typically, sound or music, pictures (still or moving), and text is mixed together to create an overall learning or entertainment experience (or both!). Navigation through the group of screen cards (or "stack" as it is called) is facilitated by clicking the mouse on the ubiquitous on-screen "buttons". Clicking a button may cause the action to zoom in (or zoom out) for more detail, or open a conceptual link to another area, thereby allowing the user to pursue another track.

There is something eerily organic about the very best stackware or multimedia presentation—it can sometimes appear somehow almost alive. This is not surprising as hypermedia is an altogether different type of computer programming tool compared to traditional linear languages like Fortran, Cobol or Pascal. Rather than being linear, hypermedia systems are more like neural networks, and hence have an affinity with the way the brain operates.

The importance of these packages to the target group of this project is that they have the potential to place software development back in the hands of people who best know the needs of that target group. Although the very best commercial multimedia and stackware packages are perhaps still produced mainly by professional programmers, it is theoretically possible for anyone to design a good stack for a particular teaching purpose after a period of training and development measured in hours or days, rather than years.

If the current dearth of useful material for adult learners with intellectual disabilities is ever to be rectified, it is the hypermedia arena that shows the most promise. It has the potential to give the control of many functions and capabilities of the computer back to non-programmers, to ordinary users, because it allows the user to programme the computer again, using intuitive, object-oriented metaphors rather than complex, arcane programming languages which have to be mastered completely for the programme to work.

In addition to this potential use by caregivers, teachers, therapists, and parents, users with disabilities are occasionally getting involved in producing stacks for themselves, and in sharing them with others. Again there is substantial motivational value and confidence-building power in getting a complex machine to do as it is told, and furthermore to do something exciting and creative on the screen. Hypermedia has a great deal of potential in many areas of education and training, and is currently under close scrutiny worldwide. For a more detailed treatment of the features and potential of hypermedia see Apple (1990).

Hardware selection: Which computer should I choose?

In selecting a computer for any purpose (and having asked firstly if a computer is necessary at all) the purposes to which it will be put should first be examined. Spending a reasonable amount of time researching this aspect will result in less disappointment in the long run. Less disappointment is mentioned because it is a fact that whatever is bought today, there will undoubtedly be a cheaper, faster, bigger (or smaller) and more powerful model on the market tomorrow. However if there is continual procrastination delaying the decision to move ahead with new information and education technology, slide-rules and blackboards will still be in use well into the twenty-first century.

Having decided on the purposes to which the computer will be put, the software to achieve these goals must then be considered. Having identified a range of software packages to meet the identified needs, a computer must be selected that can run these packages (or at least a majority of them). In making the final choice consideration should be given to issues such as local backup and ongoing support, reliability, upgrade capability, and value for money.

Unfortunately, most buyers of technology conduct this complete selection process in the reverse order—they buy the hardware first and then cast around for things to do with it. Sadly, if they have made the wrong choice it can be an expensive mistake to rectify.

To make the task a little easier, the bulk of applications that would be directly (or even remotely) useful to adults with intellectual disabilities have versions or similar programmes which will run on IBM and compatibles, Apple IIe or IIgs, Apple Macintosh, and Acorn computers (BBC Master, and Archimedes). Few other computers have anything much to offer, although if one had a Commodore or Atari, a few of the above types of software are available in limited titles.

A note about access issues: if the user has multiple impairments including physical or sensory problems, it may be critically important that the input to, or output from, the computer is appropriately modified. In Pryce-Davies and Kennedy (1992) various systems are identified in which access can be provided to persons with quite severe disabilities, and the reader is directed to that paper for details. In essence, methods have been developed which "fool" the computer into thinking that it is being used with the normal mouse, keyboard, or monitor when in fact the user is accessing the computer indirectly via a keyboard emulator, mouse emulator, or scanning system, or perhaps has the screen output redirected to a Braille display or speech synthesiser. By these methods, people can still use regular, unmodified software, and thus their choices are not limited to specially-designed software which may in reality be unsuitable for their needs, or which may further isolate them from mainstream users.

Postscript: The Cerato Project software

In 1987 a Victorian team funded mainly by the Commonwealth was set up with the aim of producing software mainly designed to train young people or adults with intellectual disabilities in numeracy/literacy basics and life skills. The needs assessment and ongoing trialling of this software appears to have been confined to Commonwealth Rehabilitation sites in several States, with very little contact made with other important service providers such as Independent Living Centres, TAFE or Education Department facilities.

A major criticism levelled at the Cerato material is that it was designed for computer hardware that is used by very few people in this field anywhere in the world. An evaluation of the project conducted by Deakin University found some technical and pedagogical problems with these packages (McTaggart & Bonnig, 1987).

The lesson of Cerato is that there needs to be widespread consultation to determine needs, the international market should be targeted where possible and high quality materials must be produced that will allow successful exploitation of these markets.

Summary

Both the definitions of "technology" and attitudes to its use in learning situations are diverse. To date, however, there is little conclusive research evidence regarding the effectiveness of the different applications. What little evidence there is is frequently anecdotal, rather than experimental. Certainly there is no research evidence about the value of the use of computer technology in literacy learning programmes for adults with intellectual disabilities. Indeed the investigation of computer technology in adult literacy programmes has been called for by Treloar (1990) and it is strongly argued here that there is a need for similar empirical studies of computer technology in literacy programmes for adults with intellectual disabilities.

While a number of positive outcomes (e.g., increased motivation, reading achievement gains) have been reported in studies of computer assisted instruction with students with special needs, and adult learners, and some anecdotal and unpublished studies with adults with intellectual disabilities, studies in the Australian setting are required.

The range of types of software included in this review makes clear that researchers and teachers need to clearly identify what types or genres of software they are using within literacy education and adult training programmes. It could well be argued that the type of software used may well influence the outcomes. Where outcomes are reported, readers and consumers need to have particular knowledge as to the type of software being used.

Currently there is very little age-appropriate, quality software for adults with intellectual disabilities. Nevertheless, the results of our Project indicate that many people in the tertiary education sector are using existing mainstream software, which on occasions is adapted to more closely meet the client's needs.

In selecting software a number of principles should be followed. This chapter summarizes those the Project members regard as essential. A list and brief description of software titles that were referred to in our Questionnaire, in the Taylor and Thomassen (1991) report, and were selected by Pryce-Davies as appropriate for this target group have been included. A number of suggestions have also been made about selecting an appropriate computer. It appears that knowing what software and hardware is available, knowing explicitly what the educational/curriculum objectives are and knowing the individual needs of each client with intellectual disabilities are essential to the development of effective literacy programmes using computer technology.

APPENDIX

For further information

Although there are very few Australian specialists in the area of technology for people with special learning needs, the following list, while representing a certain diversity of focus, provides a contact person in each state and territory who can provide information and further sources in the area of technology and disability:

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STUDIES AND QUESTIONNAIRE SURVEYS

LITERACY AND THE WORKPLACE FOR ADULTS WITH INTELLECTUAL DISABILITIES

Pat Gunn, Louise Young and Christa van Kraayenoord

Introduction

Although there is recognition of the importance of literacy skills to successful employment in the wider population, little is known about the significance of this relationship to people with intellectual disabilities. This study set out to map the kind of literacy skills that have already been achieved by adults with intellectual disabilities, to relate these to the demands of the workplace and community life and to provide a basis for planning appropriate literacy programs.

A number of literacy programs are already in operation for this population. However, the current practice of decrying the use of labels to describe people with disabilities, especially those derived from test results, has disadvantages if we would like to differentiate between programs for specific individuals. It is true that we should focus on the individual rather than the label or test result but it would be useful to know if there are any critical characteristics of the individual learners that may be linked to successful implementation of the various programs. As far as literacy is concerned, the critical characteristics would seem to be related to such factors as cognitive processing ability and verbal skills, experiential knowledge and interests. Especially for group instruction, a great deal of frustration can be avoided if the teacher has some indication as to where to start with each individual so it would be important to know something about the person's presenting level of literacy skills. Other critical issues concern the level of literacy needed to meet the demands of the everyday environment and to satisfy personal aspirations.

The study investigated the literacy skills of a sample of adults who were working in workshops in the Brisbane metropolitan area. In addition to obtaining information about the type of skills already mastered by these adults, an attempt was made to analyse the literacy skills demanded in their workplace and to determine their further interests in reading.

The workplaces sampled were the Holy Cross Laundry and Mercy Centre contract packing centre at Wooloowin, the Endeavour Foundation commercial packaging workshop at Northgate, the Endeavour Foundation mailing and printing centre at Bowen Hills and the Endeavour Foundation sheet metal workshop at Newmarket.

Work settings and job descriptions

Observations were carried out at each work site over several days in order to obtain descriptions of work carried out at each centre in terms of the literacy and numeracy skills required.

At the Laundry, work was classified according to the amount of literacy required. Supervisors were required to carry out the paper work and form filling of incoming laundry because of the large volume and speed of work necessary to sort in-coming bags of linen from large commercial establishments such as hospitals, hotels, Queensland Railways and restaurants. Literacy skills were necessary to know in which trolley to put sheets, towels etc. as these were labelled accordingly. From the sorting room, laundry was taken to the washing machines and driers and this work was carried out by independent workers.

Most of the adults with intellectual disabilities were employed at tasks involving the pressing and folding of linen. This was a labour intensive task involving little or no literacy skills. From here the linen was taken to a sorting room which required significant literacy and numeracy skills. Workers were required to sort linen according to the printed name tag and make up complete orders by checking for the correct name and quantity, as well as being able to count job lots to ten and multiples of ten before packing and wrapping the laundry.

The workshop carrying out contract work at Wooloowin operated in several different areas. Some clients were involved in packaging cutlery packs for an airline. Whilst minimal literacy and numeracy skills were involved it was necessary for workers to be able to put a serviette in a bag with the airline logo facing the correct way and to check that there was only one of each item in the bag. In another section food was being packaged for a diet food company. This involved placing the correct amount or weight of product in a bag. Literacy and numeracy skills were required to read each bag so that cereal was put into the bag marked cereal, and to be able to go to the storeroom for replacement bags and food when supplies had run out. Many of the workers were not able to read and this meant supervisors had to be constantly checking and anticipating what was needed.

At the Northgate workshop, a variety of goods was wrapped in commercial packaging such as blister packs and heat sealed wrappers. Not only was it necessary for the worker to place the item on the card with the print facing the correct way but it was necessary to know that the appropriate item was in the correct wrapper. Counting in lots of ten and weighing items to plus or minus 5 grams required reading the digital display on scales. In most cases workers did not complete the paper work accompanying orders as it was essential to avoid errors. While believing that several workers may have literacy skills that would allow them to learn to do the paperwork, the supervisors did not have sufficient time to educate them in this area because of the time pressure to complete orders.

In the workshop that operated as a mailing and distribution centre, workers wrapped newspapers, newsletters and advertising material. Most of the workers were involved in folding papers or letters and placing them in envelopes or plastic packs. This involved checking the article was facing the right way. Another task involved placing address labels on letters which required the skill of knowing the correct orientation of letters and words. More complex literacy and numeracy skills were necessary to collate sequences of pages in their correct numerical order before being assembled. The most difficult task was sorting address labels into postcode regions when only a range was given and to sort out interstate and overseas mail so the correct postage could be charged.

The Newmarket workshop was a sheet metal factory making materials for the building industry such as fascia boards and metal components requiring bending, shaping or pressing. The work was mainly physical and required minimal literacy and numeracy skills. Sheets of metal had to be placed squarely in the machine so the alignment was correct and orders had to be packed in bundles of ten and multiples of ten for distribution. All paperwork was carried out by the supervisors.

Selection of participants for the study

Managers or supervisors at each of the workshops selected the participants on the basis of their literacy and numeracy performance in the work setting. They were asked to make this choice according to three designated levels (the manager's perceptions of *below average, average* and *above average* literacy skill for workshop employment). This resulted in there being six people at each level. They ranged in age from 21 to 54 years with an average age of 30 years. There were nine males and nine females, five from the Holy Cross Laundry, four from the contract packing unit at the Mercy Centre, three from the Endeavour Foundation commercial packaging workshop, three from the mailing and printing centre and three from the sheet metal workshop.

All participants agreed to be tested and interviewed for the purposes of this study. Of those initially nominated, one person did not agree to participate and so a replacement was chosen.

Assessment materials

The selection of assessment materials was difficult as most standardized instruments have been designed for use with children rather than adults. Consequently, the materials chosen included tasks reflecting competence in everyday adult settings and also tests commonly used with children to determine the nature and level of literacy skills. Because it was expected that many of the participants would have minimal literacy skill, the skills tested were chosen on the basis of their importance to the acquisition of proficient reading.

Throughout the assessment sessions, care was taken to make the participants feel at ease and not threatened by the more difficult tasks. Efforts were praised, care was taken to avoid situations of repeated failure and testing was confined to short periods of time.

READING

Form Completion: As an introductory task, while rapport was being established, participants were asked to complete a form asking for their name, address, telephone number, age, date of birth and signature. If they were unable to read the instructions, assistance was given and if they were unable to write all their details it was noted if the information could be provided orally.

Letter names and sounds: 26 letters of the alphabet, including the two print versions of "a" and "g" were presented in upper and lower case format. Participants were asked to name each letter and then to repeat the process by naming each of the letter sounds.

Word identification of basic sight vocabulary: 20 words which are common to books suitable for beginning readers were selected from the wordlists used by the Warwickshire Adult Literacy Placement Guide (Nichols & Mowatt, undated) and the Infant Grade Word Recognition Test (Doessel, undated). See Appendix 1 for the wordlist. Although the latter test was designed for young children, it consists of basic words found in all reading material, whether for adults or children.

Word identification of social or protective sight vocabulary : This included 20 words which participants were likely to come across or need knowledge of in their everyday life. It included words such as stop, exit, men, women etc. See Appendix 2 for the wordlist. The words were presented first in isolation to ascertain pure word identification levels and then with contextual cues in the form of pictures. During the initial pre-testing of test items it had been found that many non-readers could identify words if they were embedded in their usual visual context. For example stop was presented as stop sign, walk on a traffic light sign and men/women on closed doors etc. Two words, men and women were presented with the closed door picture as well as the pictorial cue of a man's head and a woman's head to cue recognition.

Milton Word Recognition Test (Muller, 1977): This test was given to those people who successfully managed the sight and social sight reading in order to gain a measure of their word recognition in terms of primary school grades from one to six.

Neale Analysis of Reading Ability Revised (Neale, 1988): Two components of this test were scored to obtain an accuracy and a comprehension reading age. The speed component of the test was not used as it was felt it would be too threatening and intimidating. The Neale test consists of short narratives of increasing difficulty with an illustration for each passage. The person being tested is asked to read the passages aloud and all errors, mispronunciations, refusals etc are noted. After the story has been read, comprehension is assessed by questions that involve the reader's use of contextual cues, pictures and prompts. Questions test immediate recall of the main idea of the paragraph, the sequence of events, specific details and some limited inference. Standardized scores with Australian norms from 5.7 years to 12.7 years have been provided.

In order to make the test more age-appropriate, the first practice passage was slightly altered so that it referred to "the little girl has a lot of toys" or "the little boy has a lot of toys" rather than "I have a lot of toys." Following this practice passage, form 1 of the test was used to obtain standardized accuracy and comprehension scores.

SPELLING

Schonell Graded Word Spelling Test (Schonell & Schonell 1960): In addition to a "spelling age" this test can be used to provide information about the speller's knowledge of the alphabetic principle, phonemic blending and orthographic patterns of English. Scores are converted to spelling ages ranging from less than six years to thirteen years and nine months.

DICTATION

Dictation Test (Clay, 1979) : Form D was selected because it was at an appropriate interest level. The emerging and skilled readers were asked to write the following sentences. "The bus is coming. It will stop here to let me get on." Performance on this test allowed observation of auditory memory - remembering a spoken sentence long enough to write it down, as well as phonic and word building strategies, visual memory of known words, knowledge about punctuation and the formal properties of print and motor skills related to writing. From the dictation test it is possible to determine the participant's ability to go from the analysis of sounds in spoken words to written forms for representing these sounds. This ability is very important in the early stage of learning to write. Those people who were able to complete the dictation task accurately were asked to generate sentences of their own. These usually involved elaborating a topic they had mentioned to the tester in conversation.

WRITING

Writing skills were assessed according to performance on the initial task of form completion and, for the more capable, on the dictation and creative writing tasks. The creative writing and dictation tasks allowed participants to show their knowledge of punctuation and the formal properties of print, while the form completion task provided an example of each person's fine motor co-ordination and expertise at letter formation. From the writing samples, it was possible to note proficiency in translating ideas into a written sentence, phonic and word making strategies, and willingness to experiment in spelling unfamiliar words. In addition, the dictation task reflected the person's competence in remembering a spoken sentence while writing it.

LANGUAGE

Peabody Picture Vocabulary Test Revised (PPVT-R) Form M, (Dunn & Dunn 1985) : This is a test which assesses oral receptive vocabulary and was given to those participants who were not able to read words from the sight vocabulary test or score on the Milton Word Recognition or Neale Tests. It does not require subjects to read or write and responses are made by pointing to a designated picture out of a choice of four pictures. The test gives results in terms of a receptive language age. If respondents have vocabulary ages around the five to six year old level then they have similar receptive vocabulary skills to children of that age who are normally ready to begin learning to read.

Clinical Evaluation of Language Functions (C.E.L.F.) Subtest 6 (Semel, Mintz & Wiig, 1980) was used to assess the ability to process and interpret spoken paragraphs and recall specific information. It involves the retention and delayed recall of details such as proper names and numerical data. Interpretation and recall depends on vocabulary knowledge, processing of specific syntactic structures and the ability to abstract and then recall specific facts. The test contains four paragraphs of increasing length, with increasing grammatical, syntactic and contextual complexity. At the conclusion of the oral reading, questions are asked and scored according to whether the response is correct on the first or second reading, an error or no response. Results are compared with expectations for different grade levels, from preschool to grades 10 to 12.

MATHEMATICS

No standardized tests of mathematical competence were given owing to time constraints. A checklist of skills in the areas of numeration, time and money was given to each of the participants as it was decided that these were the main areas which were required by them in their everyday lives. A list of the actual skills that were considered is given in Appendix 3.

Numeration: In this area the main skill was their ability to count and have one to one correspondence to ten. This was then extended to see if they could count accurately beyond ten. Simple problems involving mathematical processes were also asked of the more capable participants. Supervisors were questioned about the level of competence in numeration they observed in the workplace.

Time: Knowledge of time was checked and this included being able to tell the time as well as understand concepts such as days, week, dates etc.

Money: Participants were asked to recognize and name all coins and notes, select appropriate coins to cover costs, make specific amounts, use equivalent coins/notes and check and count change after purchase. Information was also collected from participants, supervisors and carers on each person's ability to budget for daily living expenses or weekly budgeting for independent living.

Assessment results

For the purposes of this report, standardized test results, whether they be as age equivalents, grade levels, percentiles or stanines have been converted into approximate grade or year level results for the purposes of uniformity and comparison.

READING

All eighteen participants could recognize their first name and surname in print.

Letters of the alphabet - Names

An average of the number of upper and lower case letters was taken to give one score for this test. Six people could name all 26 letters in both upper and lower case format, while one person could not name a single letter. Scores for this task were very high, with 14 people naming 20 or more letters. The full range of scores is shown in Figure 1.

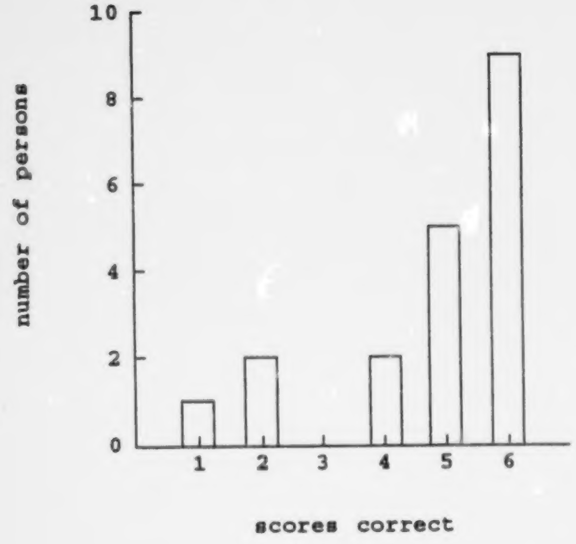

Figure 1: **Letters of the alphabet - Names**

Score category				
	1:	0-4	letters	correct
	2:	5-9	"	"
	3:	10-14	"	"
	4:	15-19	"	"
	5:	20-24	"	"
	6:	25-26	"	"

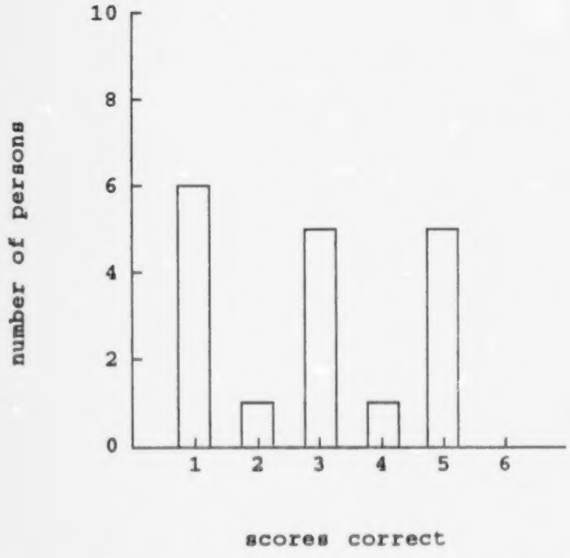

Figure 2: **Letters of the alphabet - Sounds**

Score category				
	1:	0-4	letters	correct
	2:	5-9	"	"
	3:	10-14	"	"
	4:	15-19	"	"
	5:	20-24	"	"
	6:	25-26	"	"

Letters of the alphabet - Sounds

Not one person could name all 26 letter sounds of the alphabet, with reversal of the letters b/d, p/q, i/l, g/j being the common errors. The highest score was 24 correct sounds which only one person obtained. Two people were unable to name a single sound and three people knew only one sound and this was for the letter S. Over one quarter of this sample of adults with intellectual disabilities knew one or fewer sounds. The range of scores is shown in Figure 2.

Sight Vocabulary

Of the twenty words, over half the group could read nineteen or twenty words correctly. Two people could not read a single word. The range of scores is shown in Figure 3.

Social Sight Vocabulary

Six people could read all twenty social sight vocabulary of words which are relevant to their daily living. Two people could not recognize any of the words. The range of scores for social sight vocabulary with and without pictorial cues is shown in Figure 4. Participants who did not achieve a perfect score for this task were then presented with the same words, but in a pictorial context. This change in presentation resulted in all participants attaining a score of five or more words correctly identified.

Milton Word Recognition Test

Twelve people attempted this test. One participant was unable to recognize any words and ten participants scored at or below the end of third grade level. Two people had scores at the grade five and six levels. Figure 5 shows the range of scores. Most people have word identification skills at the lower primary school level of reading development.

Neale Analysis of Reading Ability Revised

Accuracy and comprehension scores were obtained for twelve participants. Eight people had reading accuracy scores below the third grade level. Only two scored at the upper primary grade level of reading ability. Comprehension scores ranged from 5 years 7 months to 12 years 11 months, which is equivalent to early grade one level to the end of grade seven level. The range of accuracy and comprehension scores is shown in Figure 6. All but two people scored below 7 years 2 months (early grade two level). There was a tendency for those with the most limited reading skills to read aloud more accurately than they could answer questions about the passages read. On the other hand, the two people with reading skills closer to an upper primary grade level seemed able to generate comprehension strategies perhaps by using pictorial and contextual cues. Their comprehension scores were higher than their accuracy scores.

SPELLING

Schonell Spelling Test

Spelling ages ranged from six to ten years, which is equivalent to grades one to five. Only 12 participants had the necessary pre-requisite skills to attempt the test. Six participants scored at a very early grade one level while another eight were at or below the third grade level. The two highest spelling ages of 9 years 7 months and 10 years are equivalent to an early grade five level of achievement. The range of scores is shown in Figure 7.

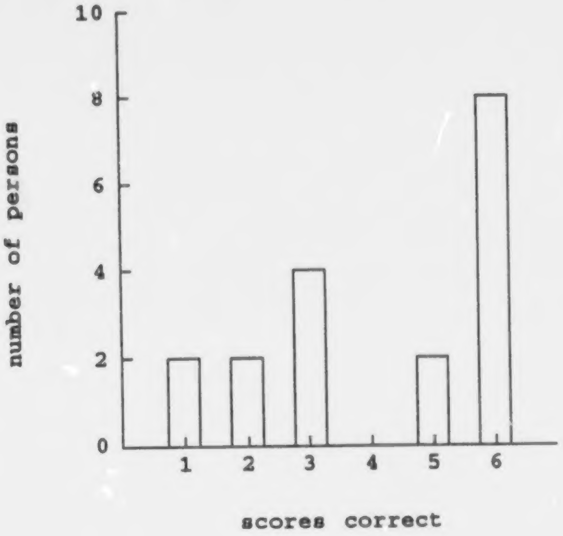

Figure 3: **Basic sight vocabulary**

Score category	1:	0-4	words correct
	2:	5-9	" "
	3:	10-14	" "
	4:	15-19	" "
	5:	20-24	" "
	6:	25-26	" "

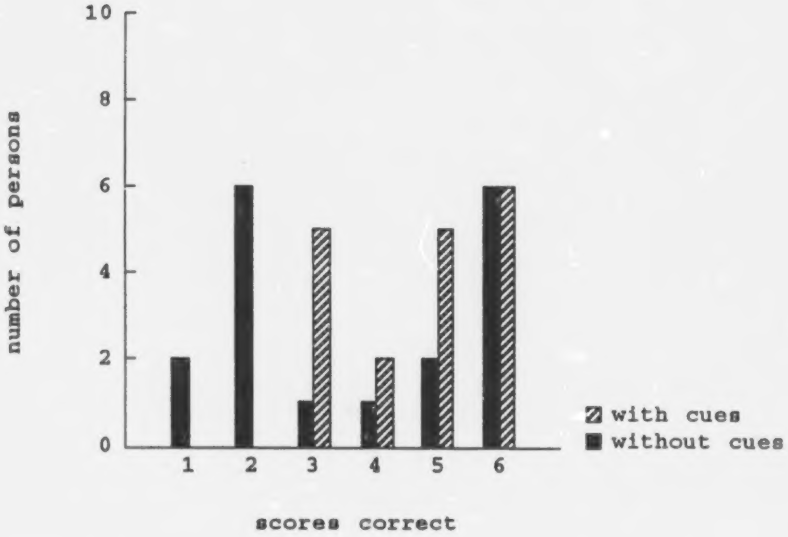

Figure 4: **Letters of the alphabet - Sounds**

Score category	1:	0-4	words correct
	2:	5-9	" "
	3:	10-14	" "
	4:	15-19	" "
	5:	20-24	" "
	6:	25-26	" "

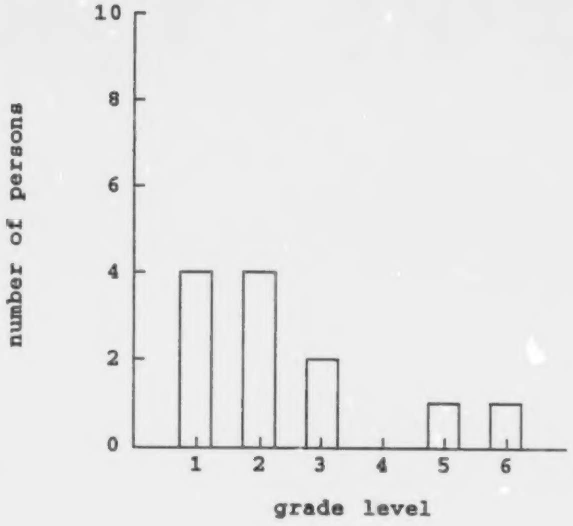

Figure 5: Word recognition test

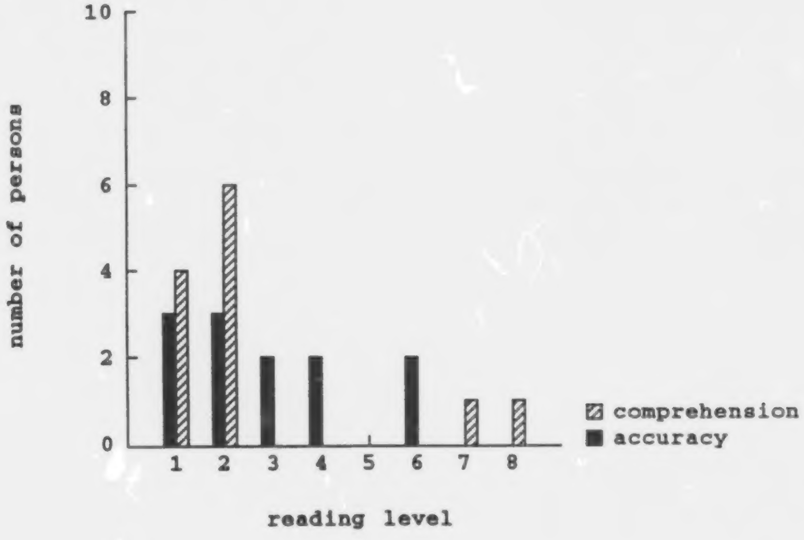

Figure 6: Neale Analysis of Reading Ability

Reading level	1:	5 yrs 7 mth	to	6 yrs 6 mth
	2:	6 yrs 7 mth	to	7 yrs 6 mth
	3:	7 yrs 7 mth	to	8 yrs 6 mth
	4:	8 yrs 7mth	to	9 yrs 6 mth
	5:	9 yrs 7 mth	to	10 yrs 6 mth
	6:	10 yrs 7 mth	to	11 yrs 6 mth
	7:	11 yrs 7 mth	to	12 yrs 6 mth
	8:	12 yrs 7 mth	to	13 yrs 6 mth

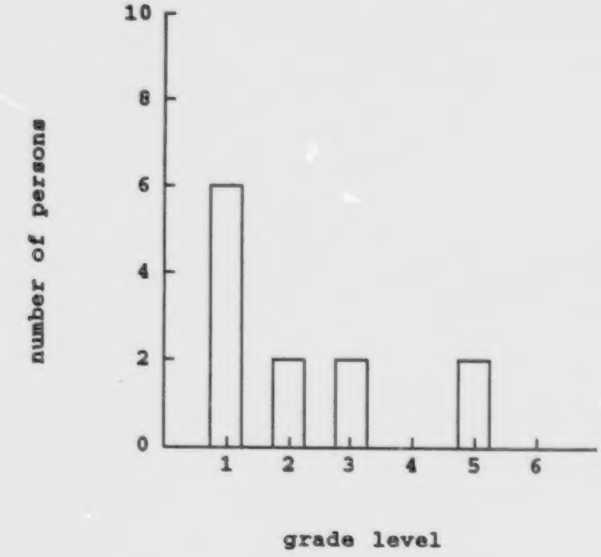

Figure 7: **Spelling**

WRITING

All participants could write their name but only nine could write their address accurately and without prompting. Those people who could write their name and scored above six years on the Schonell spelling test were given the dictation task. Scoring was in terms of stanines for the end of grade one and seven people scored at stanine six or seven. This level is higher than that gained by 70% of children at the end of their first year at school and six of these people were asked to generate their own sentences. Eight other participants performed at or above the middle range of skills for children at the end of grade one.

The people who were asked to generate and write their own sentences wrote at a very simple level for content and vocabulary, approximately late grade one or early grade two. Errors were made by all participants and included the incorrect use of capital letters within or at the beginning of words. Use of full stops had to be prompted and no other forms of punctuation were used. Sentences were short and simple and expressed only one idea. The written expression skills were at least four grade levels below the reading skill level.

Whilst all writing was legible, most people chose to print and the printing had the characteristics of early writing skills. Correct writing conventions of left to right, top to bottom progression and correct letter and word spacing were observed. Everyone had the mechanics and skills necessary for writing, although some were hampered by poor hand eye co-ordination which affected letter formation and placement. It was interesting to note that in the dictation test, all participants started the second sentence on a new line, even though they'd been told they would be writing a short story. Even the people who had perfect scores did so and this is indicative of a general lack of awareness about the conventions of written expression.

LANGUAGE

Peabody Picture Vocabulary Test Revised

Six people who had insufficient skills to be assessed on any of the reading tests were given the Peabody Test to ascertain their level of receptive language. Scores on this test ranged from 3 years 11 months to 8 years 3 months. Three of the six non-readers had receptive language scores equivalent to the grade one level or higher. This means their receptive language skills were equal to or higher than children who are in their first year at school and beginning to learn to read. Even if they have never had reading instruction before, their language skills are now at a sufficiently high level to begin reading instruction. Only three people out of the total sample of eighteen had language skills so low that they may find it difficult to cope with the mechanics of reading instruction. Extensive work in the area of language development and visual and auditory perception would seem to be desirable before beginning formal instruction.

Oral Comprehension C.E.L.F. Subtest 6

This test involved the processing of spoken paragraphs together with the answering of comprehension questions and was scored in terms of grade level. Six people scored at or below the grade two level whilst most people achieved a score in the grade ten to twelve range. Their ability to process and interpret spoken paragraphs and recall salient information was at the adult level. The range of results is outlined in Figure 8.

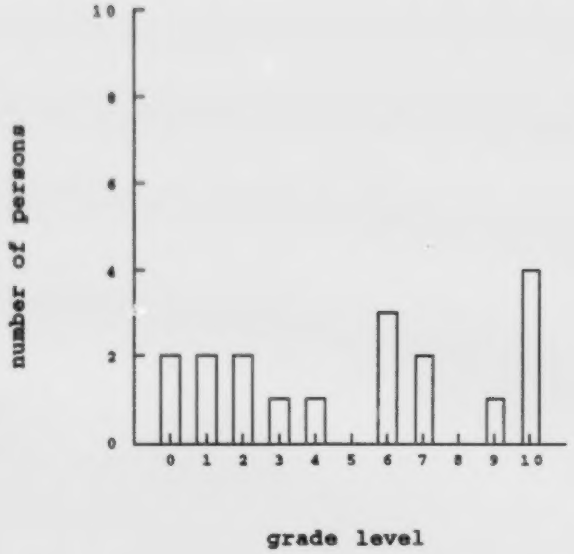

Figure 8: CELF language processing

Three of the twelve participants had low aural and reading comprehension skills which were at approximately the same level. Their understanding of what they read or what had been read to them showed an overall deficit in their ability to recall information, whether it be read or spoken. These three people were not known to have a hearing impairment and the poor performance did not seem to be due to inattention. It may possibly be due to a memory deficit or a specific difficulty in processing verbal language.

For the other nine participants, aural comprehension was vastly superior to reading comprehension. Several people had reading comprehension equivalent to a second grade level and aural comprehension was equivalent to a tenth grade level. They were able to comprehend spoken information at an adequate level and yet their reading comprehension was much lower. Many people had aural comprehension skills at the secondary level but reading comprehension at the low primary level which indicates there is not an overall language deficit. It may simply be a lack of skill and knowledge of reading related skills and these could be improved through the provision of appropriate instruction.

MATHEMATICS

Numeration

All participants could count and had one to one correspondence to ten. However this task was presented as a single trial and many of the workshop staff commented that this type of counting could not be sustained and errors would be made by many when repeated counting was required. Counting of job lots is an important workshop task but accuracy is vital and the inconsistency of counting is a problem. Six people could carry out basic addition and subtraction tasks correctly. They were unable, however, to solve the same problems in the work setting. For example there are 65 items in the box but we need 100. How many more do we need? There was a general inability to write the numerical representation of that kind of information, even though the required amount could be calculated correctly if it were presented as a numerical addition or subtraction task.

Time

Everyone could tell the time to the hour or half hour and had a good concept of important times of the day. Six people could tell the time to the nearest minute in both digital and analogical time, sixteen could name days of the week and nine could name the months of the year. Nine people could name the current date and ten people could state their date of birth. All eighteen participants were aware of times such as lunch time, which were significant to the daily routine and only four people could have been considered as having a poor concept of time and inadequate time telling competencies.

Money

Five people had such a limited understanding of money and its use that they required continual monitoring. Carers had to supply exact money for bus/train fares on a daily basis or the week's fares would be handed over in a lump sum. Difficulties with money seemed to be a major skill deficiency for these adults.

Sixteen people could recognize and name all the coins and fourteen could recognize and name all notes. Ten people were able to select the appropriate coins/notes to cover costs and of these, seven had a sound understanding and working use of equivalence in coins and notes.

In the area of budgeting, eight people were able to set aside money for regular expenses such as fares or bowling and other weekly entertainment costs. Three were able to budget for their weekly living expenses for accommodation, food, bills, transport and entertainment but they required assistance from parents or carers to help them in this task. Only two people were able to carry out this budgeting with no outside assistance.

Survey of interest in literacy

In addition to assessing the level of reading skills of the participants in this study, an attempt was made to determine if there were materials which they would like to be able to read. The materials chosen were based on a consideration of all the opportunities for reading that may be presented to these adults in their daily home, work and community lives.

A forced choice questionnaire was used and participants were asked to choose from a pair of items the one that they would most like to be able to read. If participants said they did not want to read either item in a pair, then the next pair of items was presented. The items for choice ranged from leisure reading, such as magazines, and books, to functional reading such as from the telephone directory, restaurant menus or instruction manuals. Response pairs were re-ordered for a second presentation to overcome response set bias. For survey details see Appendix 4.

The most desirable items which this sample wanted to read and were the choice of over 75% of the sample were books, T.V. guide, drink machine instructions and the telephone book. Other items with a 50% to 75% choice, were grocery labels, video labels, street signs, menu at McDonald's/Sizzler, names of shops and bus/train timetable. The least favoured choices were the ability to read recipes, newspaper front and sports pages, and medicine labels.

Participants who had no word identification skills invariably selected the choices involving books or newspapers, while those with some reading skills tended to choose reading for tasks which were relevant to everyday living, for example reading the T.V. guide, video labels, drink machine instructions, or the menu at McDonald's/Sizzler.

Parental and staff viewpoints

Workshop managers and supervisors were questioned on their views of the literacy needs of these people. All were in favour of the need for on-going education, although not all were keen that it be done during work hours. The workshops are run as a business enterprise and there is no room for errors. Orders have to be despatched quickly and accurately, and this leaves little time for workers to learn new skills. Supervisors would like to be able to hand over more responsibility for completion of paperwork but there is not time to teach these new skills when there is pressure to complete a job. Ideally they would like time and resources to be available for this purpose. This is where ongoing education could benefit both the employer and employee.

Parents are keen for continuing education but they would like it to be done within work hours. Many parents are elderly and they do not or are not able to go out at night to take their son/daughter to a T.A.F.E. College or Adult Education course. Public transport is greatly reduced at night so there are problems with transport to access education. This problem seems less likely to be an issue in a smaller town.

Summary of results and conclusions

The study achieved its objective in mapping the kind of literacy skills achieved by adults with intellectual disabilities. In this sample of 18 adults, the three levels of literacy regarded by workshop supervisors as *below average, average* and *above average* have corresponded roughly to *pre-reading* levels at pre-school and early grade one, *emerging* *readers* at grades one to three and *more proficient readers* at about grade four level or above. If instruction for those who work in sheltered workshops is to be effective, it must take this range of literacy skills into account.

Some participants had literacy skills below the school entry level and in addition, low general language skills. Despite this, even the non-readers had some social sight word recognition and could name the letters of the alphabet.

Five people knew no letter sounds or only one. This is possibly due to the fact that they have never actually been taught these sounds and perhaps this was considered to be beyond their scope of achievement. But the fact that they were able to recognize and name most of the letters of the alphabet in both upper and lower case format, suggests that there is the ability to learn a letter name and therefore a letter sound.

Poor spelling also seemed to be due to a lack of knowledge about sound-symbol associations. Current research into reading acquisition suggests that there is an important link between phonemic awareness and reading. This would seem to be an area for remediation.

The use of pictorial cues helped even the poorest non-reader to recognize the words in the social sight vocabulary. One reading method incorporating the use of pictorial cues is Bridge reading (Dewsbury, Jennings & Boyle, 1983), in which a pictorial cue (or the cue may be a sign) and the word are presented concurrently. Practice and repeated exposure leads eventually to independent reading and the cue is then withdrawn. Performances by all participants increased dramatically with the addition of cues. The use of Bridge reading or similar rebus techniques suggests a direction for reading instruction, especially for those adults whose literacy skills are at the pre-reading stage (see also a study of the use of rebuses in a later chapter of this Report).

In this sample, the adults with emerging reading skills were able to read passages aloud more accurately than they could understand them. It would seem that the development of adequate comprehension strategies needs to be part of the literacy programs even when the adult is at the early stages of learning to read. The more proficient readers in this sample seemed able to generate their own comprehension strategies and the two best readers scored higher for comprehension than for accuracy.

Those participants whose test results showed they were literate in terms of survival reading skills had writing skills at the low primary school level.

In the dictation test, all participants started the second sentence on a new line, even though they'd been told they would be writing a short story. Even the people who had perfect scores did so and this is indicative of a general lack of awareness about the conventions of written expression. This type of error is due to lack of experience and improved skills in this area could be gained through exposure to education. Many of the participants had the necessary reading and spelling pre-requisite skills but have not learnt about grammar, punctuation and story writing. It is suggested that this discrepancy between reading and writing skills could be overcome with instruction and would open up a new area, that of written communication.

Numeration skills were generally at a lower level than reading skills. Most people performed at the low primary school level. Time telling skills were functionally adequate for 78% of participants in this study. Money handling skills were poor. Only 17% had functionally adequate money skills and 23% had skills in this area at the grade one level or lower.

Education could help overcome these weaknesses, as money and its uses are a relevant part of their lives, especially with the move towards independent living in the community. These adults need to be able to handle money competently.

The survey regarding interest in literacy showed that these adults were aware of the literacy skills needed by them in their daily life and they were keen to continue with education. Their motivation and interest level was high. Workshop managers, supervisors, parents and carers were also in favour of continuing and on-going education, although there was a difference of opinion as to whether this should be carried out within working hours and at the workplace.

At each of the workshops there were workers who were already accessing literacy courses, whether adult literacy, private tutors or workshop run education. In all cases, the adults with intellectual disabilities made the choice. They frequently chose education, even when they had the choice of leisure pursuits such as art or pottery. Workshop staff commented that these courses not only increased literacy skills but there were subsequent positive effects on self esteem, confidence and motivation which were reflected in the work setting.

There seems no doubt that many adults with intellectual disabilities are eager to learn and that their increased competence would have positive benefits for both themselves and their employers. The challenge is to design a flexible system that allows the workplace to provide both a job (and that means facing up to the realities of commercial time constraints) and the opportunities for upgrading the worker's literacy skills.

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APPENDIX 1

List of Basic Sight Vocabulary

on
the
all
one
said
had
at
you
was
and
to
for
is
not
in
it
are
of

APPENDIX 2

List of Social or Protective Sight Vocabulary

crossing
poison
bus stop
entrance
exit
gentlemen
men
keep out
walk
police
stop
push
come in
out
women
ladies
danger
closed
toilets
don't walk

APPENDIX 3

Mathematical Skills Checklist

Numeration

Does not count
Counts, but inaccurately or by rote
Counts and has 1:1 correspondence to ten
Counts using multi digit numbers
Understands relative values (8>6>3)
Can perform simple mathematical processes

Time

Associates routine daily activities with time of day
Able to recognize times which are significant to the daily routine
Recognizes o'clock, half past times
Recognizes quarter to/past times
Able to read time to the exact minute
Able to use time equivalents eg. 1/4 past 9, 9 : 15
Can read and understand digital time
Can read and understand analogical time
Names days of the week
Can state current day
Names months of the year
States current month
States yesterday/today/tomorrow day names
States current date
States age
States date of birth

Money

Has no understanding of purpose of money
Has basic understanding of purpose of money
Recognizes some coins/notes
Recognizes all coins/notes
Selects appropriate coins/notes to cover costs
Selects appropriate coins/notes to make specific amounts
Understands equivalence in coins/notes
Checks and counts change after purchase
Able to budget for daily living expenses
Able to budget for weekly living with assistance
Able to budget for weekly living without assistance

APPENDIX 4

Survey of Literacy Interest

Which of the following would you like to be able to read?

PART A

Books	Women's Weekly/New Idea	Neither
T.V. Guide	Recipes	Neither
Bus/Train timetable	Newspaper – front pages	Neither
Grocery labels	Women's Weekly/New Idea	Neither
Bowling Score Sheet	T.V. Guide	Neither
Newspaper sports pages	Video labels	Neither
Signs on coin operated machines e.g., drink machines	T.V. Guide	Neither
Telephone book	Newspaper – front pages	Neither
Street signs	Books	Neither
Names of shops	Menu e.g., McDonald's/Sizzler	Neither
Medicine labels	Instruction manual for T.V., video, washing machine	Neither
Recipes	Books	Neither

PART B

Video labels	Names of shops	Neither
Newspaper – front pages	Sign on coin operated drink machine	Neither
T.V. Guide	Telephone Book	Neither
Recipes	Women's Weekly/New Idea	Neither
Books	Bowling Score Sheet	Neither
Street signs	Newspaper sport pages	Neither
Instruction manual for T.V., video, washing machine	Women's Weekly/New Idea	Neither
Books	Recipes	Neither
T.V. Guide	Bus/Train Timetable	Neither
Newspaper – front pages	Medicine labels	Neither
Menu e.g., McDonald's/Sizzler	Recipes	Neither
Grocery labels	T.V. Guide	Neither

QUESTIONNAIRE SURVEYS OF ISSUES IN THE PROVISION OF LITERACY INSTRUCTION TO ADULTS WITH INTELLECTUAL DISABILITIES

Christa van Kraayenoord

Introduction

In order to obtain information related to a number of issues in providing literacy instruction to adults with intellectual disabilities, six different questionnaires were developed by staff at the Schonell Special Education Research Centre. The Steering Committee provided the Centre staff with feedback and changes were made to the originals. The final versions of the questionnaires can be found in each section. In total 1078 agencies were contacted either by telephone or by mail.

The main survey comprising three of the questionnaires was sent to 312 colleges of TAFE around Australia, Specific Learning Disabilities (SPELD) headquarters in each state except the Northern Territory, and community colleges, community centres and neighbourhood houses as appropriate. The survey was sent in late November, 1991. Due to the very poor response rate, a second mailing was undertaken in early March, 1992. In the second round 350 forms were sent out and 56 were returned. Nevertheless the total return rate is very low. Indeed one may suspect that there is some bias in the sample of respondents. Individuals interested in the provision of literacy to adults in general, and/or to adults with intellectual disabilities, and/or those involved in providing literacy courses were more likely to return the questionnaires. Although TAFE is the major service provider of literacy courses for individuals with intellectual disabilities the number of responses returned from this sector was particularly disappointing. The three questionnaires that were sent were:

- Principals'/Directors'/Presidents' Questionnaire which examined course provision and student numbers
- Review of Courses Questionnaire which was sent to course convenors, and
- Review of Current Skills and Training of Teaching/Tutoring Staff Questionnaire which was sent to course convenors, tutors and teachers.

In addition one questionnaire was sent to CES and Skillshare service providers throughout Australia. The CES/Skillshare Questionnaire was sent to 320 CES offices and 276 Skillshare offices. Again the return rate was low, that is 33%.

The Correctional Services Questionnaire was sent to 82 Correctional Services Centres. The return rate was 45%.

Finally, a telephone survey of literacy providers was undertaken with the main focus being non-government funded agencies, sheltered workshops, activity therapy centres, adult training centres, neighbourhood houses, residentials, churches, libraries, welfare groups and support groups. This involved phone calls to some 730 sites, however relevant information was obtained from only 205 sites.

Results of the Questionnaires: An Explanation

In coding the information on the questionnaires it should be noted that the "Ns" vary substantially within questionnaires. Where "no response" was made, this was coded as "missing data". Missing data are not referred to in the reporting of the results. Therefore not all percentages total 100. Likewise for some questions multiple responses were allowed, which means that not all totals equal 100%. All percentages have been rounded to the nearest whole number.

Principals'/Directors'/Presidents' Questionnaire Results

Principals, directors, and presidents of colleges, agencies, and organizations who indicated that they provided literacy courses to adults were surveyed. See Appendix 1, Volume 3 for the Questionnaire. Ninety individuals responded to the questionnaire across Australia. Appendix 2, Volume 3 provides a list of the respondents. At least two thirds of the respondents were TAFE college staff. The number of people who responded by state are found in Table 1. The majority of respondents were Disability Officers, then Principals, Directors, and Presidents (see Table 2).

Table 1: Location of respondents

	Respondents	
	Number	Percent
State		
NSW	28	31
VIC	11	12
QLD	28	31
SA	6	7
WA	10	11
TAS	5	6
NT	2	2

Table 2: Title/Designation of respondents

	Respondents	
	Number	Percent
Principal/Director/President	22	24
Guidance Officer/Counsellor	1	1
Teacher	15	17
Disability Officer/Services Coordinator	24	27
Associate Director/Deputy Principal	15	17
Other	12	13

In our conversations with service providers the impression was given that only people with "mild" intellectual disabilities may be receiving literacy services. In order to test this hypothesis respondents were asked whether literacy courses were provided specifically for adults with "mild", "moderate" or "severe" intellectual disabilities. (Explanations for these terms were not provided.) It is clear from the results in Table 3 that few providers catered for literacy learning/communication training of those with severe intellectual disabilities. Where providers indicated they presently did not hold courses, only 17% (N = 16) indicated they were planning to provide such courses in the future. The reasons why these providers were prevented from establishing literacy courses for the target group are indicated in Table 4. Multiple responses were permitted. It is clear a lack of funding was the principal reason why literacy courses were not provided for particular groups of individuals with an intellectual disability.

Table 3: Literacy courses specifically available for adults with "mild", "moderate" or "severe" intellectual disabilities

	Respondents	
Have courses	Number	Percent
Mild	65	61
Moderate	41	46
Severe	14	16

Table 4: Reasons why providers have not made literacy courses available

	Respondents	
	Number	Percent
These individuals should not receive literacy training	1	2
Method of instruction inappropriate	1	2
Lack of staff	12	19
Lack of appropriate materials	2	3
Policy decision	8	13
Lack of funding	31	51
Other	17	28

Respondents were also asked whether students with "mild", "moderate" or "severe" intellectual disabilities were mainstreamed in general literacy classes. The largest majority of respondents indicated that adults with "mild" intellectual disabilities were in mainstream literacy courses. The results regarding people with a severe intellectual disability are as expected. That is, one would not expect to see many of these people in mainstream adult literacy classes (see Table 5).

Table 5: Adults with "mild", "moderate" and "severe" intellectual disabilities mainstreamed in general literacy classes

	Respondents	
	Number	Percent
Are mainstreamed		
Mild	59	66
Moderate	22	24
Severe	4	4

Three quarters of respondents who said they had students with intellectual disabilities in mainstream literacy courses answered a question about special support services for this group. Where respondents did indicate that people with intellectual disabilities were mainstreamed in general literacy classes, 67% (N = 41) indicated that special support predominantly took the form of additional personnel. Sixty-seven percent of these respondents (N = 26) indicated that specialist teachers, support teachers or other staff assisted. Fifteen percent (N = 6) and 18% (N = 7) of this group indicated that "more time" was given to students, and "more 1-to-1 instruction" was given respectively.

People with "mild", "moderate" or "severe" intellectual disabilities were also mainstreamed into vocational or other/prevocational classes (see Table 6).

Table 6: **Adults with "mild", "moderate" and "severe" intellectuall disabilities mainstreamed in vocational or other prevocational classes**

	Respondents	
	Number	Percent
Are mainstreamed		
Mild	54	60
Moderate	24	27
Severe	5	6

Respondents were asked to nominate a course that could be described as "prevocational/vocational" which students with intellectual disabilities attended. Just over 55% of the people who indicated that people with intellectual disabilities were in prevocational/vocational courses listed course names. Categorization of the courses revealed a wide variety of courses (see Table 7). While all would require some literacy/numeracy skills, four categories of courses could demand considerable reading/writing and numeracy. These include: preparation/access to workskills, prevocational literacy/numeracy, hospitality and typing/keyboard.

Table 7: **Prevocational/vocational courses attended by students with intellectual disabilities**

	Respondents	
	Number	Percent
Preparation/access to work skills/intro to vocational education	13	30
Prevocational literacy/numeracy	3	15
Hospitality	10	23
Landscaping/gardening/horticulture	3	15
Joinery/cabinet-making	2	5
Typing/keyboard	2	5
Other	11	25

Table 8 provides information showing the number of people with intellectual disabilities related to the size of the prevocational/vocational courses that are attended. This Table indicates that most respondents had between 0 and 10, or 11 and 20 students with intellectual disabilities in prevocational/vocational courses that had between 1 and 5 students (51%, N = 20). Thus, class sizes were small with small numbers of students with intellectual disabilities.

Table 8 **Size of prevocational/vocational courses by number of people with intellectual disabilities**

	Number of students in course		
Number with ID	*1-5*	*6-10*	*>10*
0-10	10[1]	3	0
11-20	10	0	1
21-30	4	1	0
>30	5	0	5

---

[1] Number of respondents

Few respondents identified "living skills courses" attended by students with intellectual disabilities (N = 19). Most of these were generic courses, although "grooming", "sewing", "basic literacy/numeracy" courses were also mentioned. The student numbers in these courses were mostly between 1 and 10, with between 1 and 5 people with intellectual disabilities reported. Similarly, few respondents identified "recreation/hobby" courses attended by students with intellectual disabilities (N = 11). These included "gardening", "craft", "joinery", "car maintenance", "understanding children" and "fashion". Most of these courses had between 11 and 20 class members, with all courses having between 1 and 5 students with intellectual disabilities. The "living skills" and "recreation" courses would be less likely to require literacy and numeracy skills and yet they were not as frequently mentioned as prevocational and vocational courses, many of whom would more than likely include literacy and numeracy. For both "living skills" courses and "recreation" courses which people with intellectual disabilities attended, "additional and/or specialist staff" was the most frequent way the students were supported. "More time" was also a form of support provided as part of the services to the students in these classes.

Seventy-four percent (N = 67) of respondents indicated that there were specific difficulties in the provision, operation and maintenance of courses for individuals with intellectual disabilities. The difficulties have been identified in Table 9. Multiple responses were allowed. The Table indicates that the major problem was in the "lack of funding", while "insufficient staff or lack of trained/appropriate staff" was the next most common difficulty. Therefore as would be expected most respondents who indicated there were difficulties, also indicated that "money" was needed to overcome the difficulties (33%, N = 30). However, "increased staff", "staff training", "resources" and "staff awareness" were also mentioned. Interestingly 56% of respondents indicated that their college/organization etc. did provide training for teachers/tutors of literacy. A check of some respondents regarding the nature of this training indicated, however, that this training was typically limited to ad hoc, on demand training in particular elements of teaching such as classroom management, general literacy teaching methods. Very little training was directed specifically to the area of intellectual disabilities and the literacy needs of this group. In addition, some of the training that was done involved the training of volunteers who would tutor students in one-to-one situations.

Table 9: Difficulties in the provision, operation and maintenance of courses

	Respondents	
	Number	Percent
Difficulties		
Access[1]	14	16
Availability[2]	9	10
Staff (insufficient number and/or lack of training	37	41
Curriculum	6	7
Resources	17	19
Assessment	4	4
Attitudes	3	3
Funding	39	43
Other	21	23

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[1] Access may be restricted, for example by re-enrolment policy, or a policy of only taking adults with a mild intellectual disability.

[2] Availability refers to frequency of courses, waiting lists, etc.

Finally, respondents were asked to provide any supplementary comments about the provision of literacy classes for adults with intellectual disabilities. Some comments are presented below. A number of comments on policies related to funding. For example:

> "A state/commonwealth approach to funding."

> "Willingness by government to commit themselves to long-term funding."

> "There is a policy of distinguishing between "community literacy" and 'workplace literacy' for TAFE. This results in many of the handicapped/disabled having to rely on providers from the general community with [TAFE sector in a particular state] working more in the workplace and/or NESB [Non-English Speaking Background] persons."

There was some criticism directed toward TAFEs in particular. For example:

> "Colleges have still not accepted responsibility for education and training of students with i.d."

> "TAFE does not yet understand flexibility in presentation and provision for individual differences."

The rural respondents made comments such as:

> "Isolated adults have no services."

> "The difficulties in a small community are different: the same people seem to pop up again and again."

The content of courses was also described by a number of respondents. Most related to integrating and using literacy in real activities. For example:

> "Have consistently found that for most students with i.d., it is better to integrate literacy appropriate to vocational content of course."

> "Literacy needs to be functional, relevant to needs of students."

> "Literacy classes must be functional and concrete in presentation."

> "Literacy needs to be tied to specific skills, e.g., gaining employment, cooking, shopping ..."

Summary

The dominant literacy service provider, TAFE, comprised two thirds of the sample of Principals, Directors, and Presidents of colleges, agencies and organizations who answered this Questionnaire. The respondents indicated that literacy courses were provided mainly for adults with "mild" intellectual disabilities. Individuals with "mild" intellectual disabilities also participated in general, mainstream literacy classes and mainstream vocational or prevocational classes (some of which would require literacy). Very few respondents provided literacy learning or communication training for adults with "severe" intellectual disabilities, nor were these people commonly found in mainstream literacy and mainstream vocational or prevocational classes. These results are as expected, nevertheless the lack of participation in literacy programmes by individuals with "moderate" and "severe" intellectual disabilities is of concern. Given that TAFE is the major provider, and this tertiary sector does not appear to be providing literacy or communication training for them, then they are probably missing out. Our results from other questionnaires appear to substantiate this finding for the vast majority of adults with "moderate" and "severe" intellectual disabilities. Where individuals in the target group took part in prevocational/vocational classes, typically the numbers were small (<5) in small classes (<20). Of interest was the finding that few students with intellectual disabilities attended "living skills" and "recreation" courses, in comparison to prevocational/vocational courses. The former two courses would require fewer literacy demands. Where special support was provided to students in all types of courses, this took the form of additional personnel.

The lack of funding was the most common reason for the difficulties in the provision, operation and maintenance of courses. "Money" therefore was the major solution to funding difficulties. However, insufficient or the lack of trained staff also featured frequently as a problem. While some colleges indicated they undertook some staff training, this appeared to be very ad hoc, with very little being directed specifically to the area of intellectual disabilities and the literacy needs of this group.

CES/Skillshare Questionnaire Results

Questionnaires were sent to CES and Skillshare offices throughout Australia (see Appendix 3, Volume 3). There were 201 respondents. Appendix 4, Volume 3 lists the names of the respondents. The majority of the respondents were Skillshare agencies (48%, N = 98), with 24% (N = 48) of respondents representing Training Centres or employment programmes or centres (e.g., "Work-link", "Huon Skills Training Centre", "Effect Employment"), 23% (N = 47) representing CES, and 4% (N = 8) representing Special Service Centres. Table 10 shows the number of the types of employment/training services who responded in relationship to their location by state.

Table 10: Type of employment/training service by state

	Type of Employment /Training Service			
	Skillshare	Training Centre	CES	Special Service Centre
Location				
NSW	22 [1]	9	11	1
VIC	30	10	9	3
QLD	21	12	15	0
SA	7	9	3	1
WA	13	4	8	1
NT	1	0	0	0
TAS	4	4	1	2

---

[1] Number

The majority of the respondents (46%, N = 92) were Managers, Officers in Charge and Supervisors. The number and percentage of the positions held by the respondents by type of employment/training service is found in Table 11.

Table 11: Title of respondent by type of employment/training service

	Type of Employment/Training Service			
Title	Skillshare	Training Centre	CES	Special Service Centre
Counsellor/Disability Officer	3[1]	3	4	2
Manager/Officer in Charge/Supervisor	33	24	31	4
Training Coordinator	14	4	4	0
Employment Officer	0	1	3	2
Project Officer	39	12	4	0
Literacy Officer	9	4	1	0

---

[1] Number

Respondents were asked whether they provided literacy courses. Responses were categorized into two groups "literacy courses for all adults", and "literacy courses for adults with an intellectual disability". The majority of employment/training services indicated that they did not provide literacy courses for adults with intellectual disabilities (68%, N = 136). All other responses (31%, N = 62) indicated literacy courses were provided for this group.

Respondents indicated that clients with intellectual disabilities participated in a number of other courses offered by the employment/training services including: prevocational, vocational, life/ living skills and other courses. The number and percentage of these courses in which people with intellectual disabilities participated and that had a literacy component is found in Table 12. Multiple responses were permitted

Table 12: Types of courses taken by people with intellectual disabilities that have a literacy component

Type of Course	Number	Percent
Prevocational	73	83
Vocational	73	69
Life/Living Skills	47	77
Other	22	73

Sixty-six percent of respondents (N = 133) indicated that they referred clients with intellectual disabilities elsewhere for literacy training. (Twenty-nine percent (N = 58) said they did not). Where referrals were made, clients were directed to TAFE (27%, N = 54), local centres such as ALBE [Adult Literacy/Basic Education] (25%, N = 51), Skillshare/CES (9%, N = 18), Commonwealth Rehabilitation Units (15%, N = 9) and Special Schools (.5%, N = 1).

When asked whether there was difficulty in advising people with intellectual disabilities only 32% of respondents (N = 65) indicated there were problems with advising these clients. However, 68% (N = 136) indicated there were difficulties placing these clients with intellectual disabilities in jobs, although only 16% (N = 32) indicated there were difficulties in placing the clients with intellectual disabilities in training, and 26% (N = 52) indicated there were difficulties in placing clients with intellectual disabilities in literacy classes. This suggests that while training these people is not difficult, finding them a job (following training) is. Placing them in literacy classes is also a source of difficulty.

Of those who indicated that placing these individuals in a job was a problem, the reasons for the difficulty in placing people were varied. Of the 115 multiple responses, however, the majority related to "the depressed labour market and current recession". The first response was coded (N = 98) and is provided here (see Table 13).

Table 13: Reasons why difficult to place people with intellectual disabilities in jobs

Reasons	Number	Percent
Current Recession	47	48
Lack of Opportunities	13	13
Employer Attitudes	24	24
Clients Need Support Services	7	7
Award Wages	2	2
Client Problems/Unrealistic Expectations	2	2
Inadequate Contacts	2	2

The first response of the 65 given for difficulty placing individuals with intellectual disabilities into training was coded (N = 57). The most frequent reason was the "lack of suitable training courses" (this was often linked to comments about "lack of funding for appropriate courses"). Table 14 shows the reasons given for the difficulty placing individuals with intellectual disabilities in training. Only the first response was coded and is given here (see Table 14).

Table 14: Reasons why difficult to place people with intellectual disabilities in literacy classes

Reasons	Number	Percent
Lack of literacy courses	19	50
Courses not "special" enough	2	5
Clients not interested	3	7
Difficulty in assessing client needs	2	5
Not appropriate for intellectual disabled clients to take literacy classes	2	5
Insufficient funding	7	18
Untrained staff	1	2
Lack of coordination	1	2
Inadequate facilities	1	2

When asked about who assessed the needs of adults with intellectual disabilities prior to advising them of appropriate employment or training, 60% (N = 120) of the respondents indicated that the clients were referred elsewhere. The agencies that undertook the assessments are indicated in Table 15. DEET/Adult Education appear to be the main service providers of assessment for clients. (DEET is the acronym for the Department of Employment, Education and Training.)

Table 15: Agencies undertaking literacy assessments of individuals with intellectual disabilities

Agencies	Number	Percent
TAFE	26	13
Private Provider	1	0.5
Rehab. Service	8	4
DEET/Adult Education	62	31
Outside Psychologist	4	2
Special School	2	1
Skillshare/CES	16	8
SPELD	2	1

Summary

The main employment/training services responding to our questionnaire were Skillshare offices. The majority of the respondents indicated that they did not provide literacy courses especially for adults with intellectual disabilities, although people with intellectual disabilities participated in other courses, most frequently prevocational and vocational courses. However, 66% of respondents said that they referred the target group elsewhere for literacy training, predominantly TAFE and centres such as ALBE. Few difficulties were found with advising these students or providing training for them. Nevertheless, a majority said it was difficult to place adults with intellectual disabilities in jobs. Placing these individuals into literacy classes was also a difficulty for about one quarter of the respondents. The "depressed labour market and current recession" was the primary reason for difficulties in finding these people work, however, the lack of suitable training courses, often associated with lack of funding was often cited by those who indicated that training provision was a difficulty for this group. The assessment of clients prior to placement in suitable courses or programmes most typically was undertaken outside the employment services by DEET/Adult Education.

Correctional Services Questionnaire Results

There were 37 respondents to the Correctional Services Questionnaire. See Appendix 5, Volume 3 for the Questionnaire. The names of the institutions and their location appear in Appendix 6, Volume 3. The majority of the institutions were prisons (62%, N = 23), while the rest were correctional and training centres (24%, N = 9), afforestation and labour camps (5%, N = 2) and prison farms (8%, N = 3).

Twenty-seven percent (N = 10) of responses came from New South Wales, 19% (N = 7) each came from Queensland, Victoria and Western Australia. Eleven percent (N = 4) came from South Australia and 3% (N = 1 each) came from the Northern Territory and Tasmania.

In the vast majority of cases the survey was completed by the "Education Officer" (87%, N = 32), which included 3 persons termed "Literacy Coordinators".

Table 16 indicates the number of prisoners with intellectual disabilities in relationship to the size of the prison population. Fourteen percent (N = 5) of the prisons did not have any prisoners with intellectual disabilities.

Table 16: Number of prisoners with intellectual disabilities

	Number of prisoners with i.d.						
Prison Population	0	1-5	6-10	11-15	16-20	21-25	25+
<100	1	5	0	0	0	0	2
100-200	2	1	5	2	0	0	1
201-300	1	2	1	1	0	0	1
301-400	1	0	1	1	0	0	1
401-500	0	0	1	0	0	0	0

Nineteen percent (N = 7) of respondents did not specify the number of prisoners with intellectual disabilities. However it should be noted that the majority of respondents indicated that the number was an estimate (68%, N = 25), and in only 14% of cases did respondents indicate that the number of individuals with intellectual disabilities was known. Nineteen percent (N = 7) of respondents did not indicate whether the numbers were known or estimated.

Thirty-six of the thirty-seven respondents (97%) indicated that literacy education/training was provided. Table 17 indicates the nature of these classes. Multiple responses were permitted. The Table shows that the majority of the literacy training was done as part of Basic Education courses.

Table 17: Nature of literacy training

Type	Number	Percent
Basic Education	28	76
Vocational Education	4	11
Recreational Courses	3	8
Aboriginal Literacy Class	1	3
Correspondence	2	5
Not specified	7	19

A variety of personnel provided the literacy training including the "Education Officer" (61%, N = 22) , "Sessional Tutor" (22%, N = 8), "Volunteers" (6%, N = 2), "Teachers/Literacy tutors" (31%, N = 11), "Prison Officers" (6%, N = 2), "Inmates" (8%, N = 3). In some cases more than one person provided literacy training. For example, in one prison both the Education Officer and a Sessional Tutor provided instruction. Provision from more than one person is reflected in the figures above. Nevertheless, the Education Officer appears to be the key literacy training provider.

Survey participants were asked if they provided special or separate literacy training/education for adults with intellectual disabilities. Forty-nine percent (N = 18) of the respondents indicated that they did provide special or separate training. These respondents indicated that the nature of this training included "one-to-one programmes" and "small group" work. Primarily the courses were "basic education for intellectually disadvantaged individuals" and "TAFE certificate of work programmes for the intellectually disabled". In the majority of cases where special training was given this was provided by the Education Officer (72%, N = 13).

When asked about the provision of informal literacy training, for example in other courses, the majority of respondents (87%, N = 32) indicated that this was given. The nature of this informal training included "learning support classes", "non-specific generic teaching, e.g., assistance with letter writing", and "prerelease courses". The most prevalent was "non-specific generic teaching" (59%, N = 19).

Literacy training was received by correspondence in 76% of the prisons (N = 28). Providers of this service included TAFE External Studies, Queensland Distance Education College, School of Distance Education, Open College Network, Northern Territory Correspondence, and the Western Australian School of Technical Extension. From this it is clear that instruction by correspondence is obtained from local in-state providers, with the main provider being the TAFE system (59%, N = 19).

Computers were used in a majority of prisons for literacy training (68%, N = 25). Where the type of software was mentioned it included both word processing packages and other software. A number of prisons indicated they used multiple packages. Although the names of computer software was sought from respondents the majority failed to specify them. Insufficient respondents supplied complete details to undertake an analysis.

When asked if there were particular difficulties in providing literacy training for adults with intellectual disabilities, the majority of respondents indicated there were problems (62%, N = 23). Allowing for multiple responses these difficulties included: "insufficient funds" (43%, N = 10), "insufficient teachers" (22%, N = 5), "inadequately trained or no trained staff" (35%, N = 8), "lack of appropriate resources or materials" (22%, N = 5), "assessment difficulties" (13%, N = 3), "classes too large" (4%, N = 1), and "organizational problems" (13%, N = 3).

Summary

Prisons were the main respondents to the Correctional Services Questionnaire. The majority of respondents indicated they had adults with intellectual disabilities in their institutions, however the actual numbers were usually estimates. It is uncertain whether information about the intellectual difficulties that prisoners might have is obtained, recorded, and taken into account during the period of correction. However, this would appear to be important for prison staff to know and respond to. Virtually all respondents indicated that literacy education was provided, typically as part of Basic Education courses, and often taken via correspondence courses. TAFE was the main provider of external, correspondence courses. The Education Officer was the key literacy provider.

Interestingly, close to half the respondents indicated that they did provide special or separate training for adults with intellectual disabilities. These were described as "basic education for intellectually disadvantaged individuals" and "TAFE certificate work programmes for the intellectually disabled". The most common informal literacy training could be described as "non-specific generic training". The three main difficulties identified in providing literacy training for this group included "insufficient funds", "inadequately trained or no trained staff", and "insufficient teachers". While at first glance it may appear that the picture of literacy training for adults with intellectual disabilities in correctional service institutions looks quite healthy, it must be remembered that the sample is very small (N = 35). The majority of respondents could only estimate the numbers of people with intellectual disabilities in the correctional service institutions in which they were working. It is suggested that what is reported here refers more to general basic education, rather than "strict" literacy training. In addition, it is suspected that the sample may be biased. That is, these respondents are from those correctional service institutions who regard literacy or at least basic education as important.

Review of Courses Questionnaire Results

In order to document the literacy courses available throughout Australia to people with intellectual disabilities we sent questionnaires to people who indicated that they provided literacy courses specifically for people with intellectual disabilities or a mainstream literacy course which people with intellectual disabilities attended. See Appendix 7, Volume 3 for the Questionnaire. A "course" means "a course of study", "class" or "tuition". In some locations a number of specific or mainstream literacy courses were provided. Therefore this data can include information about more than one course at one site. For example four questionnaires were received from Lithgow College of TAFE, NSW, three from Northern Territory Open College of TAFE, Palmerston, and two from Hobart Technical College, North Hobart. A complete list of respondents is found in Appendix 8, Volume 3. One hundred and eight responses were obtained from all States and Territories. For each course the majority of the respondents described themselves as "Teachers". Table 18 provides information about the positions held by the respondents.

Table 18: Title/Position of respondents providing literacy courses

	Number	Percent
Teacher	67	62
Coordinator/Manager	34	31
Literacy Tutor	3	3
Project Officer	2	2
Other	2	2

The type of courses were categorized. Table 19 indicates that the majority of courses were Adult Literacy/Basic Education courses.

Table 19: Type of literacy courses

	Number	Percent
Primary	1	1
Modified Secondary	1	1
Adult Literacy/Basic Education (includes communication)	50	46
Survival Literacy	6	6
Basic Living Skills/Life Skills	8	7
Literacy for Intellectually Disabled Adults	3	3
Other	16	15

The respondents were asked to indicate if the course they were responsible for was a literacy course for adults with intellectual disabilities or a mainstream literacy course which adults with intellectual disabilities attended. Fifty-one percent (N = 55) were the former, 40% (N = 43) the latter, with 9% (N = 10) of respondents not completing this question.

Eighty-seven percent (N = 94) of the courses had paid staff and fifty-nine percent (N = 64) had volunteer staff. Some courses had both paid and volunteer staff. Of the courses employing paid staff 55% (N = 52) had 1 paid staff, and 21% (N = 20) had 2 paid staff. Fourteen percent (N = 9) of the courses that indicated they had volunteer staff indicated they had 1 volunteer, with another 14% (N = 9) indicating they had 2 volunteers. The course with the largest number of volunteers had 55 volunteers. This was a large non-government adult literacy provider comprising of volunteers giving one-to-one tuition.

The majority of literacy courses for adults with intellectual disabilities were funded by the Department of Employment, Education and Training (DEET), and Department of Employment, Vocational Education and Training (DEVET) now Department of Employment, Vocational Education, Training and Industrial Relations (DEVETIR). The

Commonwealth (unspecified) was the second most common source of funding. The funding picture was the same for mainstream literacy courses which adults with intellectual disabilities attended (see Table 20).

Table 20: Main sources of funding

	Literacy courses for adults with intellectual disabilities (ID)[1]		*Mainstream literacy course which adults with intellectual disabilities attend*[1]	
	Respondents		*Respondents*	
	Number	Percent	Number	Percent
DEET/DEVET	28	51	26	61
Commonwealth (unspecified)	7	13	8	19
VoAELP	1	2	1	2
Non-Government	4	7	3	7
Other (including user pays)	5	9	2	5
Not funded	5	9	0	0

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[1] Analyzed separately throughout all Tables in this Questionnaire

The length of time the courses had been running is shown in Table 21. From the data it is clear that literacy courses specifically for adults with intellectual disabilities have been put into place more recently with many courses in their first year of operation. In contrast, most of the mainstream courses had been operating for between 6 to 10 years.

Table 21: Number of years courses exist

	Literacy for ID		*Mainstream Literacy*	
	Respondents		*Respondents*	
Year	Number	Percent	Number	Percent
1	20	36	7	16
2-5	13	24	12	28
6-10	11	20	13	30
>10	5	9	11	26

The majority of literacy courses for adults with intellectual disabilities were offered yearly (see Table 22). However, mainstream literacy courses were evenly distributed between yearly, twice yearly and more than twice yearly (see Table 22).

We asked literacy providers about whether students could only join the course at fixed times (e.g., at the start of the year) or at any time. Table 23 shows the information relating to fixed entry or staggered entry. The findings indicate that the majority of courses can be accessed at any time during a year.

Table 22: Frequency of course offerings

	Literacy for ID Respondents		*Mainstream Literacy Respondents*	
	Number	Percent	Number	Percent
Yearly	21	38	14	33
Twice Yearly	12	22	14	33
> Twice Yearly	15	27	14	33

Table 23: Staggered or fixed entry to courses

	Literacy for ID Respondents		*Mainstream Literacy Respondents*	
	Number	Percent	Number	Percent
Fixed	19	35	7	16
Staggered	35	64	36	84

A policy of non-reenrolment (that is, unable to attend the course more than once) was found for the majority of course providers (82%, N = 89). Although the reasons for this policy of non-reenrolment were sought, only 11% (N = 9) answered this question. No further analyses were undertaken.

Most courses involved two hours per week, (36%, N = 39), with the next most frequent being three hours, (16%, N = 17), six hours (14%, N = 15), and one hour (10%, N = 11).

Most courses were held for 36 weeks (20%, N = 22), with the next most common durations being 18 weeks (14%, N = 15), 40 weeks (13%, N = 14), and 8 weeks (6%, N = 6). Six courses had flexible hours, as they were correspondence courses. The majority of courses were day courses (42%, N = 45), with courses spanning both day and evening hours being the next most common (31%, N = 33), and evening courses (19%, N = 21) representing the remainder.

The main course objectives were coded and appear in Table 24. Multiple responses could be given. It is clear from Table 24 that the main aim of both sorts of courses was to develop "functional literacy skills". This was as expected. The second most important aim of both types of courses was to "meet individual needs/maximize the potential of the participants".

The attainment of course objectives of the literacy courses for adults with intellectual disabilities was predominantly determined by multiple measures. This was also true for mainstream literacy courses. The next two common methods of determining objective attainment of literacy courses for people with intellectual disabilities was "ongoing/continuous monitoring" of some type and "task completion". In contrast, the next two common means of determining mainstream literacy course objectives was "task completion" and "ongoing/continuous monitoring". It should be noted that whether the objectives were determined by multiple measures, task completion and/or ongoing continuous monitoring these concepts are very vague and have very broad interpretations. In coding the answers it was noted that few respondents gave details or elaborated. Table 25 indicates the variety of ways in which objective attainment was determined.

Table 24: Main course objectives for literacy courses

	Literacy for ID Respondents		*Mainstream Literacy Respondents*	
Objectives	Number	Percent	Number	Percent
Meet individual needs/ maximum potential	15	27	10	23
Develop functional literacy skills/general	37	67	27	63
Develop communication skills	9	16	6	14
Develop living skills	13	24	5	12
Develop self esteem/ confidence	6	11	7	16
Move into another English course	0	0	2	5
Other	13	24	10	23

Table 25: Ways in which attainment of objectives was determined

	Literacy for ID Respondents		*Mainstream Literacy Respondents*	
	Number	Percent	Number	Percent
Task completion (anecdotal/ observations)	8	15	14	15
Tests including criterion-referenced - not named	1	2	1	2
Questionnaire	0	0	1	2
Self-evaluation	1	2	1	2
Ongoing/ continuous monitoring	12	22	8	19
Multiple measures	18	33	18	42
Other (specified)[1]	3	6	5	12
Other (unspecified)[2]	7	13	1	2
No assessment				

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[1] Other (specified): a particular tool was named

[2] Other (unspecified): vague comment (e.g., "the teacher does it")

An examination of how students were referred to the courses revealed that literacy courses for students with intellectual disabilities most often had self-referrals, while mainstream literacy courses had parent-referrals (see Table 26). Of interest in these results is the high number of self-referrals, indicating that adults with intellectual disabilities are keen to participate in literacy courses. Multiple responses were allowed. Where respondents indicated that "others" make referrals, an examination of these people or agencies found the following were involved: social workers, office of corrections, government employment programmes, CES, Skillshare, friends, counsellors, Intellectual Disability Services, Community Services, Commonwealth Rehabilitation, schools (general), general advertising, newspapers and neighbours. Therefore, one can see a great many people are involved in making referrals. This also indicates that information about the existence of literacy courses must continue to be spread widely.

Table 26: Sources of referral for courses

	Literacy for ID Respondents		*Mainstream Literacy Respondents*	
	Number	Percent	Number	Percent
Self	20	36	19	44
Parents	17	31	23	53
Special school/classes	14	26	10	23
Residential staff	16	29	8	19
Employers	16	29	6	14
Advocacy groups	10	18	8	19
Other	12	22	15	35
More than one	11	20	8	19

Students were most commonly assessed for **entry** into literacy courses for students with intellectual disabilities by interviews. The same was true for mainstream courses. It is interesting to note that "no assessment" on entry to courses was more likely to occur in literacy courses specifically for students with intellectual disabilities, than in mainstream literacy courses (see Table 27). (Respondents indicated their responses using prescribed categories).

Table 27: Type of assessment used for entry into courses

	Literacy for ID Respondents		*Mainstream Literacy Respondents*	
	Number	Percent	Number	Percent
Interview	39	71	32	74
Standardized tests	1	2	1	2
Multiple measures	5	9	6	14
Other	1	2	3	7
No assessment	7	13	1	2

"Other" measures used prior to entry to literacy courses included: writing samples, oral reading samples (with miscue analysis or with recall or with reading comprehension questions), writing exercises, Cloze exercise, College's own test (unspecified), tests designed by staff (unspecified), written application letter, work-orientated skills, and the referral (itself).

Assessment methods used **during** the course are indicated in Table 28. Categories were prescribed. The use of multiple methods was the most prevalent form of establishing students' progress during a course.

During the courses "other" assessment measures included: work experience reports, student self-assessments, teacher-devised tests, and a student and teacher evaluation sheet.

At the **completion** of the courses a "review of goals, often including self-evaluation and/or an exit interview" were the type of measures most frequently used (see Table 29). (Open-ended responses were coded, thus providing a more detailed categorization of responses for this question, in comparison to the two previous questions).

Table 28: Assessment measures during a course

	Literacy for ID Respondents		*Mainstream Literacy Respondents*	
	Number	Percent	Number	Percent
Progressive sampling of students' work	8	15	6	14
Informal assessment (e.g., classroom observation)	17	31	3	9
Formal assessment (e.g., standardized tests)	1	2	0	0
Multiple measures	22	40	26	61
Other	1	2	1	2
No assessment	4	7	0	0

Table 29: Assessment measures on course completion

	Literacy for ID Respondents		*Mainstream Literacy Respondents*	
	Number	Percent	Number	Percent
Task completion (anecdotal/ observations/work samples)	4	7	5	12
Tests (including criterion-referenced, not named)	3	6	2	5
Questionnaire/checklist	1	2	0	0
Review of goals, often including self-evaluation and/or exit interview	18	33	14	33
Ongoing/continuous monitoring	3	6	1	2
Multiple measures	8	15	11	26
Other (specified)[1]	2	4	0	0
Other (unspecified)[2]	9	16	5	12
No assessment	1	2	0	0

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[1] Other (specified): a particular tool was named

[2] Other (unspecified): vague comments

Standardized Tests listed by respondents as being used prior to or at the completion of literacy courses included the Hull B, Holborn Reading Scale, Schonell Word Reading Test, RTA tests, and Daniels and Diack.

From this list it is clear traditional tests of isolated words are the most common form of standardized tests. Of interest is that none of these tests have been normed on a "disabled" population.

An examination of course numbers indicates that the majority of each type of course involved between 2-6 students (see Table 30).

Table 30: Course size

	Literacy for ID Respondents		*Mainstream Literacy Respondents*	
	Number	Percent	Number	Percent
Number of students				
1	12	22	9	21
2-6	25	46	14	33
7-12	13	24	16	37
>12	3	6	2	5
Other (e.g., some individual, some group)	1	2	0	0

A list of published materials used in the courses is indicated in Appendix 9, Volume 3. Overwhelmingly however, the most common type of material could be described as "teacher-made", these included the use of "real-life materials", newspapers, recipe books, etc. Seventy-five percent of respondents (N = 81) indicated that they had designed materials/resources for their courses, although only 45% (N = 49) believed that they would be suitable for other literacy course providers to use. (Reasons for their suitability/non-suitability were not sought.) Several respondents referred to using "adult literacy materials", however these were not described.

Only twenty-eight percent of respondents (N = 30) indicated that their course followed a planned curriculum. Of those, 67% (N = 20) indicated that their curriculum had been designed by themselves.

Where respondents indicated that the curriculum had been obtained from other sources, respondents indicated the curriculum came from: Community Bridging Curriculum for Persons with Disabilities (TAFE), TAFE curriculum, Queensland Department of Education, Correspondence School, State Training Board, Tasmanian Education Resource Staff, and Queensland Distance Education College.

Respondents were asked to indicate whether the course they were teaching could be described as concerned mainly with English Language Arts, Numeracy, or both English Language Arts and Numeracy. The majority (54%, N = 58) indicated that their course content involved both language arts and numeracy, with 36% (N = 39) involving mainly language arts and 3% (N = 3) mainly numeracy. When asked to describe the term that best described their teaching approach, the majority of respondents indicated they used a "whole language" approach although many respondents also indicated they were eclectic in their teaching approaches, using more than one of the approaches suggested. Table 31 identifies the teaching approaches referred to by respondents.

Table 31: Teaching approaches used

	Respondents	
	Number	Percent
Whole language	37	34
Genre	3	3
Thematic	4	4
Skills-based	23	21
More than one of the above	30	28
Other	3	3

Computers were used in 46% (N = 50) of the courses. Appendix 10, Volume 3 provides a list of the software used. (Readers are referred also to the chapter entitled "Technology in adult literacy programs for people with intellectual disabilities" of this Report).

In order to find out about the longevity of courses, respondents were asked to provide information regarding the number of students who have enrolled in their course since inception and the number of students who have completed the course since its inception. However, few respondents answered these questions and where answers were given these frequently showed uncertainty (that is, numbers were followed by question marks). No analyses were undertaken.

Fifty-five percent (N = 59) of respondents indicated that the course they taught did fulfil the need for literacy courses for adults with intellectual disabilities in their area, and 42% (N = 45) believed it did not. When those who indicated the course was not sufficient were asked why the course did not fulfil the need of the 85% (N = 38 out of 45) who responded, 39% (N = 15) indicated reasons such as time (e.g., the courses were not held with sufficient frequency as most were held only once or twice per week, which most respondents thought was not adequate for individuals with intellectual disabilities). Thirty-seven percent (N = 14) indicated that the demand by people with intellectual disabilities for courses was too great, that is, the supply could not keep up with the demand.

Forty-three percent (N = 46) of the courses had waiting lists, while 49% (N = 53) of the courses did not. Waiting lists number from 1 to 50 persons, however the courses were distributed very thinly over this range. Of those who gave a solution to clearing the waiting lists (N = 33), "more money" was the solution suggested by 64% (N = 21) of the respondents, while 12% (N = 4) , and 21% (N = 7) suggested "additional teachers" and "additional courses" respectively. It might be argued that respondents calling for more money assume that this will allow for more teachers and/or more courses.

When asked to rate the outcomes of their course on a continuum from "unsuccessful" = 1 to "very successful" = 5, the majority of respondents believed their course to be "4" (49%, N = 53), "3" (2%, N = 24), or "5" (17%, N = 18), with 58% (N = 63) believing their course to be a model for successful service delivery. The features of the course believed by respondents to be essential to effective service delivery are reported in Table 32. Multiple responses were allowed. It is clear that effective service delivery is dependent on the teachers' skills, appropriate teaching resources, and access to the course.

Table 32: Features essential to successful service delivery

	Respondents	
	Number	Percent
Access	21	19
Availability	3	3
Staff Training and Skills	32	30
Curriculum	13	12
Teaching Resources	27	25
Referral	3	3
Assessment	8	7
Funding	20	19
Other[1]	31	29

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[1] Other: miscellaneous, but with frequent references to "class size"

We offered respondents the opportunity to make open-ended comments about the issue of service provision. Some responses are documented here.

Attitudes and characteristics of teachers and tutors also appeared to effect the quality of courses.

> "Dedicated tutors prepared to experiment."
>
> "Patient and committed staff."
>
> "Selecting suitable teacher: empathy as well as **likes** students."
>
> "Caring professionals with good liaison in local community."
>
> "The personality and flexibility of staff members is essential to successful delivery."

Respondents also commented about teacher training, both preservice and inservice training. Many indicated that training was inadequate and militated against effective service provision.

> "Staff training … needed."
>
> "Upgrading of staff training and skills."
>
> "The service I provide would be better if I had access to inservice training for people with i.d."
>
> "Staff have been feeling their way to any [sic] extent and this indicates a lack of formal training."

Funding was another issue of concern.

> "In this State very little funding/resources are directed to this needy cause. Limited availability throughout State, possible due to lack of trained personnel and funding."
>
> "Funding needs to be ongoing to enable coordinators and present tutors to plan for the future."

Other respondents discussed the need for appropriate resources.

> "Appropriate reading resources …"
>
> "Age appropriate resources."
>
> "Meaningful classroom materials …"
>
> "Resources—more adult material at basic level needs to be developed."
>
> "More appropriate resources such as video, better software, etc."

Many of the respondents highlighted the positive aspects of one to one teaching and of focusing teaching on student needs.

> "The most important aspect is one to one tutoring; each student has a chance to learn and develop at his (sic) own speed and according to his (sic) capabilities and interests."

> "The one to one tutoring is successful in that an individual's needs can be catered for in a friendly non-threatening and flexible atmosphere."

Some respondents also were concerned about the students themselves. Some respondents indicated that student motivation was not always evident.

> "Students need to demonstrate a keen interest in improving their literacy skills ..."

> "A strong commitment on the student's part, make[s] this course successful."

> "To have highly motivated students ..."

Many suggested that assessment at the beginning, during and after the course was considered important and could influence the efficacy of courses.

> "Assessment particularly prior to class."

> "Preassessing student's ability, both academic and social skills, to create as homogeneous a group as possible."

> "Appropriate assessment procedures."

> "Effective evaluation processes—informal, non-threatening."

> "Design of assessment for course completion."

Interestingly when we asked people to indicate how their courses could be improved the responses mirrored those that were given for effective service delivery. Table 33 provides the information regarding how respondents believed courses could be improved. According to the respondents, increased funding, more staff, better training, and more and better teaching resources would bring about improvement in courses.

Table 33: Features that would improve courses being provided

	Respondents	
	Number	Percent
Separate and special courses for students with ID	4	4
Teaching Resources (more/better)	16	15
One-to-one instruction	3	3
Smaller class numbers	1	1
Curriculum changes	5	5
Funding	17	18
Staff training and skills/more staff	10	9
Other[1]	19	18

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[1] "One-off" miscellaneous comments

Summary

One hundred and eight responses about individual courses for adults with intellectual disabilities were received. The majority of these courses were adult literacy/basic education courses taught by teachers. Just over half of the courses were described as literacy courses specifically for adults with intellectual disabilities. Most courses had paid staff members, most typically with one paid staff member per course. The most common source of funding for all literacy courses was through DEET and DEVET. Most of the courses specifically for adults with intellectual disabilities were recently provided, with many in their first year of operation. The issue of continued funding for these courses has been raised in the findings of this Project as well as numerous earlier reports on services to people with disabilities.

The majority of literacy courses for adults with intellectual disabilities were offered yearly with fixed entry times (e.g., at the start of the year). Most literacy courses, whether specifically for the target group or mainstream courses had policies of non-reenrolment (that is, unable to attend the course more than once). Most courses were held for 2 hours per week for 36 weeks, and they most often were provided during the day. Most courses comprised between 2-6 participants.

The main aim of both types of courses was to develop "functional literacy skills" with the attainment of course objectives of the literacy courses for adults with intellectual disabilities being predominantly determined by multiple measures, including task completion (anecdotal/observations) and ongoing/continuous monitoring.

Self-referral was the most prevalent manner in which individuals were referred to literacy courses for students with intellectual disabilities. This indicates the high interest and motivation of literacy learning of the target group. Nevertheless, a large number of other people were involved in referrals indicating that information about the existence of literacy courses must continue to be spread widely.

For entry into both sorts of courses "interviews" were the most frequent type of assessment. However, "no assessment" on entry was more likely to occur in literacy courses for students with intellectual disabilities than in mainstream literacy courses. "Multiple assessment measures", such as informal observation of classroom learning and progressive sampling of students' work, was the most typical type of assessment used during courses. The use of a "review of goals, often including self-evaluation and/or an exit interview" was the most common type of assessment on completion of courses.

A superficial examination of the results relating to assessment prior to, during and on course completion could provide the impression that teachers are undertaking a lot of assessment. We however do not believe this to be the case. We purposely included a number of questions related to assessment. It is clear from our results that different types of measures are being used at different phases. One can debate whether this is appropriate, especially at the beginning and end of courses. In addition, the results show that most of the techniques are informal and their implementation can have a variety of meanings. "Completion of tasks", "classroom observation" and "ongoing monitoring" are all vague terms. We received the impression that while respondents said they were involved in these activities there was a wide range of interpretation in what "completion of tasks" etc. actually entailed, and indeed we suspect that many of the respondents would be unable to articulate in more detail what such assessment involved or would be able to show us documented assessment records. The impression we have is a lack of rigour in this area. However, this issue needs to be explored further with closer empirical investigation.

From the review of the literature, it is evident that there is a dearth of appropriate published materials for teaching these adults with intellectual disabilities, as well as for their reading recreation. This is borne out by the fact that the most common type of materials used was "teacher-made". While one may argue that teacher-made material is more likely to meet the individual needs and interests of the clients, we suspect that the lack of published material contributes to the frequency of teacher-made materials being used. Interestingly, close to half of the respondents used computers in their courses.

Of concern is the finding that few respondents followed a planned curriculum. Where a planned curriculum was followed most indicated they had designed the curriculum themselves. This lack of the use of a planned curriculum it may be argued is a consequence of a philosophy of "meeting individual needs". However, whether this philosophy is held or not we were surprised that so few respondents planned their curriculum. This issue also requires further follow-up investigation.

Most respondents indicated they followed an integrated model of learning, integrating all the English Language Arts and numeracy. The most common teaching approach was "whole language", although many respondents indicated they used a variety of teaching approaches including whole language, skills-based, thematic and genre. However, the exact nature of these approaches in practice in different sites was not followed up here.

Slightly more than half of the respondents indicated that the course they taught did meet the need for literacy courses for adults with intellectual disabilities. Where need was not met respondents suggested this was because of the need for students with intellectual disabilities to attend courses more than once or twice weekly and supply could not keep up with demand.

The perceptions that respondents had of their courses was high, with most believing their course to be successful, and over half believing their course to be a model for successful service delivery. Respondents suggested that effective literacy provision was dependent on teachers' skills (including attitudes and characteristics), appropriate teaching resources, and access to the course.

The findings from this Review of Courses Questionnaire we believe provide an important first step in actually describing what occurs in courses for adults with intellectual disabilities from the teachers' perspectives. It is important that future research investigate courses from "inside the classes". Some of our Special Projects detailed later in this Volume have begun to do this, however further rich descriptions of actual practice are required. In particular, issues of congruency between teacher beliefs and philosophy and practices, student perceptions, assessment, and the effectiveness of instructional approaches require exploration.

Review of Current Skills and Training of Teaching/Tutoring Staff Questionnaire Results

One hundred and two individuals completed the Review of Current Skills and Training of Teaching/Tutoring Staff Questionnaire. See Appendix 11, Volume 3 for the Questionnaire. Their institutions are listed in Appendix 12, Volume 3. Their distribution by state is found in Table 34.

Ninety-two percent of respondents (N = 94) were female, and 8% (N = 8) were male. Their ages ranged from younger than 26 to older than 45, with most in the 36-45, and older than 45 age ranges (see Table 35).

The positions held by the respondents are found in Table 36. The majority of respondents described themselves as "Teachers".

Table 34: Location of respondents to skills and training questionnaire by state

	Respondents	
	Number	Percent
State		
NSW	27	27
VIC	13	13
QLD	32	31
SA	6	6
WA	15	15
TAS	5	5
NT	4	4

Table 35: Age of respondents

	Respondents	
	Number	Percent
Years		
<26	1	1
26-35	24	24
36-45	38	37
>45	38	37

Table 36: Positions held by respondents

	Respondents	
	Number	Percent
Position		
Teacher	53	55
Special Education Teacher	3	3
Coordinator/Director	27	28
Tutor	8	8
Instructor	5	5

Fifty-two percent (N = 53) of the respondents were in full-time positions, and 47% (N = 46) in part-time positions. Seventy-nine percent (N = 81) were in paid employment, and 13% (N = 13) in voluntary employment. Of those who were in paid employment, 50% (N = 51) were permanent staff, and 38% (N = 39) were casual staff. Of those who responded (61% of respondents) to the question about the award under which they were paid, 46% (N = 47) indicated they were paid under the Teachers' Award, 6% (N = 6) under the PACCT Award (Adult Educational Professional Administrative Clerical Computing and Technical Staff Award), and 4% (N = 4) under an "other award". The vast majority (90%, N = 92) indicated that they had made an ongoing commitment to the course they were involved in.

With respect to the respondents' qualifications directly related to the position they held the majority held qualifications from either a University or College of Advanced Education (see Table 37). This is in line with the data indicating that most were being employed under a Teachers' Award, and with information indicating that the majority of respondents had a Bachelor's degree, or a Bachelor's degree followed by a Graduate Teaching Diploma (see Table 38). Nevertheless of interest is also the wide variety of qualifications the respondents had. They included: Masters of Education, Masters of Arts, Bachelor of Education, Bachelor of Arts, Graduate Diploma (Special Education), Graduate Diploma (Adult Education), Graduate Diploma (Educational Studies), Graduate Diploma (Educational Administration), Graduate Diploma in Education (Literacy), Graduate Certificate (Remedial Teaching), Diploma of Physical Education, Associate Diploma of Education (Adult), Certificate of Education, Certificate of Teaching, Diploma in Journalism, Developmental Disabilities Certificate, Volunteer Tutor Training Course, Certificate of Achievement (Instructional Skills), and Certificate of Journalism.

Table 37: Source of qualification

	Respondents	
	Number	Percent
Source		
University/CAE	81	79
TAFE	6	6
Other	10	10
None	3	3

Table 38: Highest qualification

	Respondents	
	Number	Percent
Highest Qualification		
Masters	12	12
Bachelors (including Graduate Dip.Tchg)	49	48
Dip. Teaching	22	22
Cert. Teaching	5	5
Other (e.g., Speech Therapy)	8	8

We asked people whether their qualifications included a significant component concerned with educating persons with intellectual disabilities, literacy and curriculum design. Only 35% (N = 36) indicated their courses had dealt with issues related to teaching persons with intellectual disabilities, although 72% (N = 73) had qualifications with a significant literacy component. Sixty-two percent (N = 63) of respondents indicated they had received training in curriculum design. People identified a wide variety of courses within their highest qualification that they considered relevant to their current job. These included courses in: student welfare, tutor training in ALBE (Adult Literacy/Basic Education), philosophy and sociology of education, learning difficulties, blind and deaf, linguistics, safety skills, first aid, augmentative communication, adult literacy, educational assessment, mathematics in special education, writing, classroom management, counselling, writing, psychology, policy studies, and teaching strategies. Other skills that respondents considered relevant included motherhood, teaching in a multicultural classroom, teaching in correctional facilities, and teaching English as a second language.

Respondents, by and large, felt that their qualifications were adequate for their current position. Seventy-four percent (N = 75) believed their qualifications were adequate. Where people indicated their qualifications were inadequate for their current position, 61% (N = 19) indicated that the area of intellectual disabilities required more attention. "Other concerns", and "concerns in teaching" were mentioned by 19% (N = 6) and 16% (N = 5) of respondents.

The skills and attitudes considered necessary for effective teaching of literacy to adults with intellectual disabilities are identified in Table 39 and 40 respectively. Multiple responses were permitted. It was apparent that the majority of respondents believed that "knowledge of theory/theoretical understanding of teaching" was most important. "Knowledge about disabilities and methods of teaching appropriate to this population" was next most common. "Patience", "compassion" and "acceptance" were regarded as essential attitudes.

Table 39: Skills necessary for effective teaching of literacy to adults with intellectual disabilities

	Respondents	
	Number	Percent
Skills		
Knowledge of theory/theoretical understanding of teaching/learning	25	25
Knowledge of disabilities and appropriate teaching methods/this population	13	13
Knowledge about adults	8	8
Ability to identify needs/work at students pace	12	12
Communication skills	9	9
Previous teaching experience	10	10
Other	9	9

Table 40: Attitudes necessary for effective teaching of literacy to adults with intellectual disabilities

	Respondents	
	Number	Percent
Attitudes		
Patience	50	49
Compassion/Empathy	40	39
Enthusiasm/Open to new ideas	11	11
Sensitivity	8	8
Integrity	14	14
Flexibility	19	19
Humor	12	12
Acceptance	35	34
Other[1]	33	32

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[1] These often included statements about "rights" and "equity".

Finally we asked respondents to make any other comments relating to the training of literacy staff for adults with intellectual disabilities. Some direct quotations are included here. Perhaps the most common comment was the need for both training and retraining/keeping teaching skills and knowledge current.

> "Training needs to be increased … retraining needs to be periodic."
>
> "[State] is in desperate need for persons properly training in literacy to service adults with i.d. Many of the programs in evidence 2-3 years ago have had funding cuts or finance withdrawn. There seems to be more clients seeking help in this area."
>
> "There seems to be a great dearth of literacy staff who feel confident about teaching adults with an i.d."
>
> "There is a need for specific short-term learning courses relevant to teaching adults with i.d. (e.g., "[p]ost-graduate diploma classes for teaching adults with i.d.)"
>
> "Dissemination of updated reviews of resources and useful methodologies to practising teachers would be extremely valuable."

Some respondents felt strongly about what the training and retraining should include. For example:

> "I studied in human relationships … and would recommend that all teachers/staff for adults with i.d. have similar training."
>
> "I feel that is it **essential** for this training that participants be offered a core subject focusing on learning and those with i.d."
>
> "Knowledge of learning theory in relation to i.d. …"
>
> "Background training in what i.d. means and what to expect, what could be neurologically wrong etc., what maximum standards are to be expected of students, etc."
>
> "A lot of time must be spent teaching new tutors reading methods suitable for these people."
>
> "Preparation of resources and relevant material. …"
>
> "Training in handling latest educational technology."
>
> "I feel that emphasis on attitude must be paramount."
>
> "Attitude development, especially in the broader issues of enabling and empowering people with disabilities to have greater control and self-determination of their lives."

The need for staff training in rural areas was articulated by two respondents in the following ways:

> "More staff development in **country** areas."
>
> "In country TAFEs there needs to be money and training made available to staff in literacy."

Summary

One hundred and two respondents completed the Review of Current Skills and Training of Teaching/Tutoring Staff Questionnaire. Overwhelmingly these were females, and most respondents were older than 36 years. Predominantly respondents identified themselves as Teachers. Just over half the respondents were in full-time positions, and the vast majority were in paid employment, paid under the Teachers' Award. The majority of respondents had a Bachelor's degree, or a Bachelor's degree followed by a Graduate Teaching Diploma obtained from a University or College of Advanced Education. Nevertheless, respondents had a wide variety of qualifications, indicating varied backgrounds and experiences.

While close to three-quarters of the respondents indicated their qualifications included a significant component concerned with literacy, and two-thirds indicated their qualifications included a significant component in curriculum design. Only 35% indicated that their courses dealt with issues related to teaching persons with intellectual disabilities. Where people felt their qualifications were inadequate for their current position, many identified the area of knowledge about intellectual disabilities as an area of weakness.

"Patience", "compassion" and "acceptance" were seen as essential attitudes for teachers working with adults with intellectual disabilities. The majority of respondents believed that "knowledge and theory of teaching" and "knowledge of disabilities" were necessary skills for teaching literacy to adults with intellectual disabilities. This finding is rather incongruous given that most of the respondents indicated that they had no/or little content in their qualifications related to disabilities and appropriate teaching techniques. The inclusion of information about disabilities and teaching techniques applicable to this population in pre-service and in-service training courses seems to be paramount and an area in which action must be taken.

Telephone Survey Results

We undertook a Telephone Survey of service providers that represented community service providers or mainstream community agencies in various states. Initially we began calling to determine whether or not they might be potential recipients of the other questionnaire surveys and therefore did not obtain and write down complete information.

However, the Steering Committee suggested that the telephone contact be used as a more formal information gathering device. This was done, however the format followed was not consistently kept, and therefore there is a substantial amount of missing data. Nevertheless, the survey does provide some information about service providers that are community-based and often non-government funded services. There were a total of 205 respondents.

Table 41 represents the range of service providers by state. This shows that the majority of respondents were Activity Therapy Centres/Adult Training Centres. Only 50% (N = 104) of responses were coded.

Eighty-two percent of all respondents (N = 168) indicated that they did provide literacy classes for adults with intellectual disabilities. However, as is seen below many of these individuals would have been provided with literacy training by other agencies and not actually by the respondents themselves. In particular TAFE was the main provider. Of the 18% (N = 36) who indicated that they were not providing literacy classes for this group, only 19% (N = 7) indicated that they were planning to provide the classes in the future. Eighty-six percent of those who responded to the question (N = 128 out of 148) indicated that they also provided informal literacy training. This included: teaching of "functional literacy", "functional numeracy", "teaching communication through COMPIC", "life skills", "vocational skills", "literacy through daily activities (e.g., learning by experience)" and "other". The two most common types of informal literacy training included "literacy through daily activities" and "functional literacy". Respondents also indicated that they had clients with intellectual disabilities in other courses, such as "pre-vocational", "vocational", "living skills", and "other", however the numbers of respondents were too small to undertake further analysis.

Table 41: Number of service providers by state

	NSW	VIC	QLD	SA	WA	TAS	ACT	NT
Sheltered Workshop	3	0	0	0	0	0	0	0
Activity Therapy Centre/ Adult Training Centre	21	8	4	2	0	0	0	0
Supported/Assisted Employment	2	0	1	2	0	0	1	0
Residential	5	1	1	0	0	1	0	1
Community House/Centre	1	3	0	5	1	2	0	0
Adult Education Class	6	4	1	0	11	0	0	0
Neighbourhood House	0	0	0	0	1	3	0	0
Library	0	1	1	0	0	0	0	0
Other	2	0	8	0	1	0	0	0

Sixty-five percent of respondents (N = 133) indicated that they referred their clients elsewhere for literacy training. Respondents indicated that clients were directed to TAFE (including Distance Education and Adult Evening Centres (Vic)), Community Services (such as libraries), Skillshare, Disability Services, Private tutors, and Other. Multiple responses were allowed. TAFE was the most common external literacy provider (56%, N = 118), with Community Services being the next most common literacy provider (13%, N = 26).

Few respondents were asked whether they gave literacy instruction on site. Of the 55 who responded, 81% (N = 45) indicated they provided literacy training on site, with 42% (N = 19) of these indicating that their "own staff" were involved in providing the literacy training. Of the 103 respondents who were asked about how training was provided, 40% (N = 41) indicated teaching was undertaken in a one-to-one arrangement, 35% (N = 36) were taught in small groups, and 25% (N = 26) were taught in both one-to-one and small group settings.

Summary

This limited data collection from community agencies indicated that the majority of them were providing literacy training to adults with intellectual disabilities, with a large number also providing informal literacy training in conjunction with the daily experiences of these adults. The more formal literacy learning was most typically provided by the TAFE sector. This finding substantiates the dominance of the TAFE as the major literacy provider for people with intellectual disabilities.

While it was proposed to the research team that there "must be" lots of literacy classes, either mainstream or specifically catering for people with intellectual disabilites "in the community" ("e.g., in church halls, community houses, etc."), we did not find this to be so. In addition, these community providers were very difficult to locate.

SPECIAL PROJECTS

INTRODUCTION TO THE SPECIAL PROJECTS

This section of Volume 2 of A Survey of Adult Literacy Provision for People with Intellectual Disabilities comprises 5 special project reports. Four of the reports describe literacy services to people with intellectual disabilities. One of the projects describes a tutor training programme. The projects have been included here because they are representative of the types of initiatives in literacy provision being undertaken across the country for people with intellectual disabilities. They should not be seen as examples of "best practice", but rather as typical case studies which provide valuable documentation of programmes. Individuals and service providers will be interested to learn from others, and these projects are seen as important initiatives in assisting individuals with intellectual disabilities and tutors to develop new skills and understanding.

The Appendices are found in Volume 3. Each study has retained its own sequence of Appendices starting at Appendix 1. Readers should locate the correct List of Appendices for each Special Project in Volume 3.

A STUDY OF THE PROVISION OF ADULT LITERACY/NUMERACY TO ADULTS WITH INTELLECTUAL DISABILITIES AT THE ROCKHAMPTON COLLEGE OF TAFE

CURRICULUM DESIGN, INSTRUCTION
AND ORIGINAL REPORT:

JUDY SIMONDS

EDITOR:

SUE LAAKSO

HISTORY OF THE PROVISION OF ADULT LITERACY/NUMERACY TO ADULTS WITH AN INTELLECTUAL DISABILITY AT THE ROCKHAMPTON COLLEGE OF TAFE

In the first half of 1987, as a result of specific requests made to the College by three organizations - the Endeavour Foundation, the Spastic Centre and the Intellectual Disability Services Division of Rockhampton - numeracy classes were offered to adults with intellectual disabilities. As the participants in the course were clients of these organizations, course goals were aligned with organizational requests. Individualized programmes were followed and teachers were assisted by volunteers from the organizations and tutors from the TAFE volunteer tutor training programme. Students attended two classes of one and a half hours per week and were divided into two groups according to ability to count, to tell the time and to recognize money.

At the request of the three organizations, in the second half of 1987 literacy classes were also offered. Students were grouped according to reading or non-reading ability. Individualized programmes were followed and assistance was provided by volunteers. Students attended one class of two hours per week. The numeracy classes were reduced to one class catering for all ability levels for two sessions each week. The classes continued in 1988 with more clients entering the programme. Each class was conducted by two teachers who were often assisted by volunteers. It was discovered that group work provided a more effective learning process for the students.

Due to staffing changes, in 1989 the adult literacy programme offered to adults with intellectual disabilities changed and expanded. More clients from the three organizations attended classes and an evening literacy/numeracy programme was offered to the increased number of clients from the Endeavour Workshop who were attending the evening regular adult literacy classes. The separate class was offered in response to the individual needs and interest levels of the adults with intellectual disabilities. Three teachers worked with small groups of five students on a rotational basis. One teacher concentrated on numeracy while the other two teachers focused on literacy. Course duration was two periods of fifteen weeks during the year.

The day programme in 1989 included a numeracy component and a literacy component. Each of the two numeracy classes of fifteen students was divided into three smaller groups of five students, with one teacher per group. The groups rotated every five weeks. In the literacy class of one and a half hours per week, students were streamed into reading and non-reading groups, and a whole language/language experience approach was used. Two teachers conducted the classes assisted by two volunteer tutors. Stimulus activities used in class included local events, newspaper articles and cooking. The aim of the class was to improve the students' abilities in the areas of listening, speaking, reading and writing.

In 1989, all classes for adults with intellectual disabilities changed direction from individualized programmes to a group programme. The reasons were:

- group activities seemed to stimulate and motivate the students in a more productive way
- less attention-seeking behaviour was noted
- the opportunity to interact and learn from peers was increased
- less record-keeping and preparation was required by the teacher
- it provided the opportunity to use a variety of stimuli that could not be used in a one-to-one situation e.g. cooking, group discussion using topical themes (newspaper pictures), and
- because the groups were small, one-to-one assistance was still possible.

The programme of themes with rotating groups in the day and evening classes was also very successful for the following reasons:

- a regularly changing environment and teaching technique
- the opportunity to share ideas at the end of the sessions with other groups, and
- groups small enough to enable good one-to-one contact.

In 1990, as a result of financial constraints, programme modifications were necessary. The day programme was conducted for groups of six students over a six week period. The evening programme was conducted for eight students over an eight week period with the assistance of a volunteer tutor. Students were streamed according to their reading, writing, speaking and listening abilities.

Classes in 1991 were similar to those of the previous year but with more voluntary assistance. Most students continued from previous years. In the first half of 1991, a group of seven students enrolled in the evening literacy/numeracy skills course as independent students rather than as members of an organization. Consequently, as the programme was not required to meet any organizational goals, it focused on personal development. The course was of ten weeks duration with one class of two hours per week. This same group of students completed a second shorter course in October 1991 and formed Group Two of the Study.

The second evening course in 1991 commenced in July and was attended by eleven students. Except for one, these students had limited or no reading ability. This group formed Group One of this Study.

OUTLINE OF THE STUDY

The study of the provision of adult literacy/numeracy to adults with intellectual disabilities focused on two separate groups and their respective programmes. Group One followed a programme of eight classes, one per week for two hours, from late July until early September 1991. Group Two attended two classes of two hours per week for a period of three weeks in October 1991. This group had attended a ten week course in the first half of 1991.

The programmes were devised and implemented by the Adult Literacy Officer and were based on prior knowledge of the students' abilities. The whole language approach to learning was used; thus listening, speaking, reading, writing and numeracy were incorporated into the learning process. The two groups were taught by a teacher (the Adult Literacy Officer), a volunteer tutor (when possible) and a student teacher. An assistant teacher also helped with Group One.

SAMPLE DATA

Group One consisted of eleven students, six females and five males. The female students ranged in age from 21 to 29 years and the male students from 24 to 35 years. Most of the students work at the Endeavour Foundation Workshop. Seven of the students lived in residences with other adults with intellectual disabilities supervised by house parents. The remaining four lived with their families. Background details of students' disabilities were unknown, apart from one male student who had Down's Syndrome and blindness in one eye. Details of school history and age of leaving school were also unknown. Four students had attended one previous course, four had attended two previous courses, and one student each had attended three previous courses, four previous courses and more than four previous courses. Appendix 1 contains personal profiles of the students in Group One. (Note: The sequence of numbering the Appendices starting at 1 has been retained for each Special Project. All Appendices appear in Volume 3). Individual data sheets developed by the Schonell Special Education Research Centre were completed for students in Group One on 12th September, 1991 (see Appendix 3). This was in week 8 of the 8 week long Pilot Study. A breakdown of the literacy skills displayed by students in Group One appears in Table 1.

Group Two consisted of seven students. The three female students were 19, 38 and 39 years respectively, and the four male students were 25, 26, 28 and 51 years respectively. Most of these students also work at the Endeavour Foundation Workshop. Two students lived with their families, four lived in residences with other adults with an intellectual disability supervised by house parents and one female student boarded in a supervised situation. Educational backgrounds were unknown, apart from the youngest female student who had attended a Special School until she was eighteen years of age. Details of the students' disabilities were also unknown, apart from the 51 year old male student who could use only his left hand. Two students each had completed one previous course, and two previous courses, one had completed three previous courses and the remaining two had completed more than four previous courses. Appendix 2 contains personal profiles of the students in Group Two. Individual data sheets were completed for students in Group Two on 7th October, 1991. This was in the week prior to week one of the 6 session course. The breakdown of literacy skills appears in Table 2.

Table 1

Reading/Use of Written Information and Writing: Group 1

		Able to do	Not able to do	Depends on task[1]	Not able to Ascertain/ Unknown
1	Can match pictures of most common objects	11			
2	Can match words of up to five letters	11			
3	Can recognize his/her own name written down	11			
4	Can recognize five to ten sight words	2	8	1	
5	Can recognize and pick out labels, trade names etc. (e.g., brand names for soft drinks, fast food, breakfast cereals)	7			
6	Can recognize up to 25 sight words	1	9	1	
7	Can recognize and act appropriately to written signals (e.g., 'Exit', 'Walk', 'Danger', 'Toilets')	3	1		7
8	Can read simple sentences	2	9		
9	Knows letter sounds of the alphabet				11[2]
10	Can build simple words through knowledge of letter sounds				11[2]
11	Can read and follow a line of instructions, (e.g., 'cut along a dotted line')	9			2
12	Can read a short list or sequence of instructions, (e.g., menu, recipe, gardening instructions)	1	9	1	
13	Can read and follow a short list or sequence of instructions, (e.g., menu, recipe, gardening instructions)	1	9		1
14	Can read a short story or letter		9	1	
15	Can read a longer story or letter of at least 100 words		10		1
16	Can look at books/magazines for pleasure	3	7		1
17	Can read books/magazines for pleasure		10		1

Writing

1	Can hold pencil or crayon and attempt to scribble	11			
2	Can scribble purposefully with pencil or crayon	11			
3	Can copy letters	11			
4	Can copy first name	11			
5	Can write first name independently	10	1		
6	Can write first name and last name independently	8	2		1
7	Can write address independently		11		
8	Can write telephone number independently		11		
9	Can copy a single word	11			
10	Can copy a simple sentence of four or more words	9	2		
11	Can write a simple sentence of four or more words independently	11			
12	Can copy a list (e.g., menu, recipe, gardening instructions)	10		1	
13	Can write a list (e.g., shopping list, menu)		11		
14	Can write a short note independently (e.g., message)		11		
15	Can write simple sentences when dictated		11		
16	Can write a short personal letter		11		
17	Can copy a short descriptive story	9	2		
18	Can write a short descriptive story	1	10		
19	Can copy short factual statements (e.g., accounts of events)	9	1		1
20	Can write short factual statements (e.g., accounts of events)		11		
21	Can write and address personal letters		11		

---

[1] For example, able to do only in Language Experience Story.

[2] Tutor indicated these behaviours was inappropriate to the course.

Table 2

Reading/Use of Written Information and Writing: Group 2

		Able to do	Not able to do	Depends on task[1]	Not able to Ascertain/ Unknown
1	Can match pictures of most common objects	7			
2	Can match words of up to five letters	7			
3	Can recognize his/her own name written down	7			
4	Can recognize five to ten sight words	7			
5	Can recognize and pick out labels, trade names etc. (e.g., brand names for soft drinks, fast food, breakfast cereals)	7			
6	Can recognize up to 25 sight words	6		1	
7	Can recognize and act appropriately to written signals (e.g., 'Exit', 'Walk', 'Danger', 'Toilets')	7			
8	Can read simple sentences	4		3	
9	Knows letter sounds of the alphabet	1			6[2]
10	Can build simple words through knowledge of letter sounds	1			6[2]
11	Can read and follow a line of instructions, (e.g., 'cut along a dotted line')	5		2	
12	Can read a short list or sequence of instructions, (e.g., menu, recipe, gardening instructions)	4		3	
13	Can read and follow a short list or sequence of instructions, (e.g., menu, recipe, gardening instructions)	4		3	
14	Can read a short story or letter				7
15	Can read a longer story or letter of at least 100 words				7
16	Can look at books/magazines for pleasure				7
17	Can read books/magazines for pleasure				7

Writing

1	Can hold pencil or crayon and attempt to scribble	7			
2	Can scribble purposefully with pencil or crayon	7			
3	Can copy letters	7			
4	Can copy first name	7			
5	Can write first name independently	7			
6	Can write first name and last name independently	7			
7	Can write address independently	6	1		
8	Can write telephone number independently	7			
9	Can copy a single word	7			
10	Can copy a simple sentence of four or more words	7			
11	Can write a simple sentence of four or more words independently	4	1	1	1
12	Can copy a list (e.g., menu, recipe, gardening instructions)	7			
13	Can write a list (e.g., shopping list, menu)	4	1	2	
14	Can write a short note independently (e.g., message)	1	3		3
15	Can write simple sentences when dictated		3		4
16	Can write a short personal letter		1		6
17	Can copy a short descriptive story	6		1	
18	Can write a short descriptive story		2	1	5
19	Can copy short factual statements (e.g., accounts of events)	7		1	
20	Can write short factual statements (e.g., accounts of events)	3	4		
21	Can write and address personal letters		2		5

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[1] For example, able to do only in Language Experience Story.

[2] Tutor indicated these behaviours was inappropriate to the course.

GROUP ONE

Except for one student, the students in Group One had very limited reading ability. The main objective was to stimulate the students to recall information gained through the learning experience process. The main stimulus, cooking, provided literacy/numeracy activities and the development of communication skills for these students with limited abilities.

MAIN ACTIVITIES AND RATIONALE

Reasons for using particular activities for Group One are as follows:

Language Experience[1]

- to develop memory recall
- to increase vocabulary
- to develop conversation skills
- to develop the concept of a word, groups of words and sentences
- to develop matching, word recognition and oral reading.

Listing materials/utensils, sequencing, retelling story in own words

- to recall information accurately
- to develop short-term memory
- to learn a sequence/order for doing things and be able to repeat this sequence
- to improve listening comprehension.

Word Recognition/Matching

- to develop a sight vocabulary.

Number Activities

- to develop one-to-one correspondence
- to develop the concept of more/less
- to understand the concept of number
- to develop number strategies.

Measurement

- to develop the concept of accurate measurement in relation to cooking skills.

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[1] See later for explanation.

Word Bingo

- to recognize sight words
- to develop matching skills
- to develop the concept of word pictures. (The student doesn't necessarily know the letters but can recognize the word by shape and size. This should enable the student to recognize a single word from a group of words.)

Egg Carton Activity

- to develop the concept of 12 and numbers under 12
- to introduce the concept of subtraction and revise addition concept
- to develop one-to-one correspondence.

PRACTICAL APPLICATIONS OF SKILLS

Practical applications for skills developed during Language Experience activities are as follows:

Copying from blackboard

- to accurately copy enables a student to match an address copied to a street or shop signs even when unable to read all the words
- gives the student the ability to match words, letters and numerals, a skill that could then be used in the workplace
- allows the student when shopping to match product names on a shopping list
- enables a student with a written bus name to match with bus sign and to catch the bus independently.

Matching word to word and phrase to phrase

- application as above.

Predicting

- to be able to confidently assess a situation in any environment and act upon the assessment correctly e.g. to be able to call a supervisor if someone has been injured or to be able to switch off machinery in a dangerous situation.

Retelling Stories

- to be able to interpret messages and instructions accurately in the workplace and home environments
- to be able to relay oral messages accurately in the workplace.

Word Bingo

- to assist in the catching of a bus
- to help with matching list to grocery item.

Number and Egg Carton Activities

- could be used in the workplace or home where counting and the concept of number is required e.g. number of screws to a bag or number of forks needed to set the table.

Measurement

- to accurately measure in a workplace environment e.g. a cupful of fertilizer to a bag of potting mix
- to accurately measure in the home environment e.g. recipes and antiseptic solutions.

LANGUAGE EXPERIENCE APPROACH

The instructional approach used in teaching Group One was the Language Experience Approach. Teaching using this approach was conducted in the following way:

Step 1 - a learning experience occurs.

Step 2 - the student recalls the experience in his/her own words. The teacher writes the student's story, preferably grouping what is said in phrases. This encourages the student to read in groups of words not word for word. When the student uses one word or incorrect grammar, he/she is encouraged to develop a correct sentence by questioning. If the student is unable to do this, the teacher will say, "Is this what you wanted to say?" and provides a correct grammatical model. If the student agrees, the suggested sentence is written down. Corrections are made in a non-critical way to enable the student to experience what is meant by a sentence.

Step 3 - The teacher asks the student to read the story. If the student is unable to do so, the teacher reads the story and the student listens. The teacher then reads the first sentence, the student reads with the teacher until he/she feels confident, then the student reads alone. This procedure is repeated until the student is able to read the complete story alone.

Step 4 - The student copies out the story in his/her own handwriting.

First class is completed.

Step 5 - The story is photocopied to provide three copies per student.

Step 6 - The student is given the copies of the story, scissors and glue.

Step 7 - The student is asked to recall the experience from the previous lesson. Usually the story is set out so that the strips make phrases or common word groupings. The student then cuts the first copy into strips.

Step 8 - After cutting, the story is reviewed using another of the photocopied sheets. The student is encouraged to read his/her own story. If unable to do so, the teacher reads the story, then the student reads with the teacher and if possible, the student reads alone.

Step 9 -
  a. The strips containing the phrases are read by the teacher who selects them randomly.
  b. The student reads the strip.
  c. The student matches the strip to the original copy.
  d. The student re-reads it after matching.
  e. The task is repeated until all strips are matched.
  f. The student glues all strips to the original copy.
  g. If time permits, the story is re-read.

Step 10 -	The student cuts the remaining copy into strips (as for Step 7) and then into words.
Step 11 -	As for Step 9, but word by word.
Step 12 -	The student copies the story into his/her book.

GROUP TWO

Students in Group Two displayed higher ability levels, in general, than students in Group One. Activities were related to:

- understanding the concept of a calendar
- the reasoning skills required for selecting certain greeting cards(birthday) and paper
- addressing an envelope
- writing an invitation
- recipes, which were used for reading and comprehension. The overall objective was to present to students examples of the different writing genres used in everyday situations, and the opportunity to create a sample of each genre.

Writing genres used were:

- re-enrolment forms
- birthday cards
- addressing envelopes
- writing an invitation
- dates (word, digit).

Reading genres used were:

- recipes
- directories (calendar, postcode book)
- word mazes.

CLASSROOM OBSERVATIONS

GROUP ONE

This section contains observations of students' responses to the various tasks presented in class. By observing the repeated activities on a longitudinal basis, it is possible to notice any changes that occurred in students' responses. However, a period of 8 weeks will not be sufficient time to show marked progress. The tasks described include:

1. Cooking and related activities
2. Copying from the blackboard, whiteboard, another page
3. Language Experience stories
4. Number-based activities.

Comment will also be made on the two Word Recognition Tests, the first conducted in the fourth lesson and the second in the sixth lesson, and on the word recognition games played by the students during the course.

COOKING AND RELATED ACTIVITIES

Cooking was used as the central activity in the course with the following objectives:

- for students to learn by doing and to enjoy what they do
- to develop an awareness of general hygiene
- to improve listening and concentration skills
- to develop the concept of sequence
- to develop the literacy and numeracy skills connected with cooking tasks
- to cooperate with other students in order to solve problems. The first cooking activity, scrambled eggs, required students to perform tasks such as cracking eggs, beating eggs, slicing tomato and measuring tablespoonsful.

The following observations were made:

- some students experienced difficulty cracking eggs so further practice would be provided in future lessons
- oral directions were understood well
- cutting tomatoes into eighths was successful due to good understanding of oral instructions
- students worked well together
- as the cooking and tidying up took longer than expected, cooking sessions would occur in alternate lessons only. French Toast was the subject of the second cooking lesson. The skills required were those used in the first lesson plus the use of tongs and an egg slice. The goals set for the lesson were:
- to recall the previous cooking experience
- to name the ingredients
- to predict what the ingredients could make
- to clean and tidy the kitchen.

In this lesson again oral directions were well understood and students were able to find the utensils more easily. One student who was normally quiet, spoke with confidence and solved the problem of what was to be cooked. Students were able to select a working group quickly.

The cooking activity of the third lesson was to make boiled egg sandwiches. Besides recalling the previous cooking activity, students were required to name the products being used and to locate words that told the names of the products e.g. milk, eggs, margarine. Also students were asked to predict what the ingredients could be used for. Cooking skills used included shelling and mashing eggs, measuring teaspoonsful, buttering bread, slicing tomato and dividing the sandwich into quarters.

During the lesson, students' manipulative skills were good and all students recognized and named the products. Although most students had difficulty locating product names such as butter and eggs, once shown, they were able to find the same word elsewhere on the product. Most students recognized the products by visual clues.

The fourth and final cooking lesson was Beef Fritters. Skills that were reinforced included recalling previous cooking experiences, naming products being used, locating words that name the product, predicting the use of the ingredients, measuring accurately, as well as understanding the concept of cubes, chunks and spoonsful. Besides measuring, other cooking skills used were mixing, cutting and turning. It was noted that all students worked well, but because the fritters did not cook well on one stove, some students lost concentration for a short time.

COPYING

Copying exercises focused on students copying from the blackboard the lists of ingredients and utensils used in preparing the food item for that lesson. Appendix 4 contains a sample of a student's copying exercise.

In the first lesson, three students were observed to copy well. Difficulties experienced by other students included setting-out problems, letters omitted in transcribing, slowness, shaky writing, large print, inaccuracy and non-use of lines.

In contrast, in both the first and the second lessons, copying from another page proved easier for students. Six students worked well, one student did not carry out the task, two students copied accurately but did not use lines and two students were more successful when the words to be copied were written on the line immediately above their work.

During the third lesson, five students copied accurately from the blackboard and two made an occasional mistake or omitted only a single letter from the lists of ingredients and utensils. Two did not complete the task and one required the example to be written on his working page. One student was inaccurate but persisted and as previously, one student was accurate but did not use lines.

Of the six students who attended the fifth lesson, three copied well from the blackboard and the same student as previously required the material to be written on his page in order to be accurate. The student who did not use the lines lost her place once and the final student was inaccurate and experienced difficulty.

The final copying exercise was in the seventh lesson and one student was absent. Two students were observed to copy well while three students omitted only occasional letters. The student who had repeatedly overlooked the lines now attempted to follow them. Four students were more successful when copying from the same page they were working on and one student had difficulty working from the board and forming letters.

LANGUAGE EXPERIENCE STORIES

As mentioned in the outline of the study, Language Experience exercises were used for the following purposes:

- to develop memory recall
- to increase vocabulary
- to develop conversation skills
- to develop the concept of words, groups of words and sentences
- to develop matching, word recognition and oral reading. Appendix 5 contains an example of a Language Experience story written by a student.

In the first lesson, seven students produced a good sequence of events for their stories while the remaining four needed assistance to produce a correct sequence. Six students created good oral sentences and five volunteered mainly single word ideas.

For the follow up Language Experience activity in the second lesson, all students managed to cut their stories into strips and individual words. Glueing was more difficult and one student required assistance to complete the task. This student also had the highest reading ability and was the only student to recognize words. She was successful in the oral reading and individual word knowledge.

On the second attempt to create a Language Experience story from the cooking activity, only three students needed prompting to expand their single word or phrase responses into sentences. All other students were able to recall in sentences the activity in which they had participated.

In the follow up lesson, all but two students accurately matched the cut-up words with identical words in the story. The two less accurate students often mismatched words with the same initial letter and same approximate length, and one of these students glued some words on upside down. Some students did not follow directions and cut the first story into words instead of strips or phrases. Two students were able to read independently their Language Experience stories.

For the third exercise, eight students were able to recall in phrases and sentences the correct sequence of events that had occurred in the cooking activity. Two students focused on single key words and phrases and the other student had difficulty recalling the sequence without prompting. One student was able to recognize four nouns.

In the follow up activity all students performed well on the cutting, matching and glueing of strips and words in their stories. Once again one student would occasionally glue a word on upside down or mismatch words with the same initial letter. For the last Language Experience exercise, six students recalled the sequence of events well and two students were able to recognize some words in their stories. As in previous lessons two students had difficulty re-telling in the correct sequence, used single words and could not identify any words, but one student who usually focused on single words now used phrases, some approximated sentences.

NUMERACY ACTIVITIES

It was discovered in the first lesson that the number of eggs in a carton created a problem for students so a series of follow up activities was undertaken to establish number concept.

Numeracy exercises in the second lesson focused on the concept of one dozen using egg cartons and unifix blocks. Both mediums worked well and students experienced no difficulty with the abstract concept of blocks instead of eggs. Some students also had knowledge of other commodities bought by the dozen.

In the second cooking lesson students knew the number of eggs in a carton but some still needed consolidation when relating the appropriate number of eggs to people. More one-to-one correspondence activities were required. Follow up activities were aimed at developing the concept of twelve and subtraction, again using egg cartons and unifix blocks. Four students had difficulty understanding and writing the correct symbols and four students were confused over the concepts of subtraction and addition. One student was able to self-correct, one was able to re-tell activities from the previous lesson and two students seemed to grasp the basic concepts without difficulty.

Numeracy-related objectives in the third cooking lesson and the follow up lesson were:

- to count accurately the number of people present
- to calculate the number of eggs and plates that were required
- to measure accurately
- to understand the concept of quarters and shapes for cutting sandwiches.

It was observed that the concepts of more and less needed reinforcing. A dice and numeral game was played to reintroduce the concept of addition using dice. Students enjoyed the game and it assisted the one-to-one correspondence skills of one particular student.

In the final cooking lesson students were required to measure accurately and to understand the concept of cubes, chunks and spoonsful.

The follow up lesson featured a number game which focused on working with the numbers up to twelve and subtraction. It was played by five students. Players were issued a photocopied game sheet and twelve counters. They were first required to count the number of squares and to place a counter in each square. The next step was to count the number of dots in a pattern, take the same number of counters away from twelve and then to calculate how many counters were left. The latter steps were repeated until all patterns had been counted and the numbers subtracted from twelve. Appendix 6 contains an example of a student's game sheet with teacher's observations.

Overall observations of the game session were that the dots were too close together for some students to count easily and two students in particular experienced difficulty. One of these students counted from right to left.

WORD RECOGNITION TESTS

Two Word Recognition Tests were conducted during the course, both using the same list of ingredient and utensil words. All words used in the tests had been seen by students in this course and in previous courses. The first test was conducted in the fourth lesson and only the student with the higher level reading ability was able to recognize all words presented. Three students registered very low response levels. The second test was conducted in the sixth lesson and responses were markedly improved. Appendix 7 contains the tables of students' responses from the two Word Recognition Tests.

Teacher's observations of the test results are as follows:

- students recognized ingredient words more readily than utensil words
- the orally literate did not necessarily score highly on the test i.e. three students who communicated well and followed instructions reasonably well, did not perform well in the test
- the student performed well on ingredient words but in her Language Experience stories she gave single word or phrase answers
- it was surprising that all but one student recognized "oil" - although all students recognized "egg" not all recognized "egg" in "egg slice"
- all students, except one, showed improved performance on the second test
- one student's test performances may have been affected by his relationship with the teacher conducting the test.

WORD RECOGNITION GAMES

WORD BINGO

Word Bingo was played in the fourth lesson as a follow up activity to reinforce word recognition by the shape of the word and by naming the words. Each student was issued a photocopied sheet of fourteen words that had been written on the blackboard for copying in previous lessons and used in Language Experience stories. These same words featured in the Word Recognition Tests. Students were also issued a set of counters. Flash cards of the individual words were shown to students who were required to locate the word on their sheet, place a counter on the word and then read the word.

The student with the high level reading ability recognized all words and one student recognized two words. Two students recognized one word in the first round and one of these students also recognized three other words in the second round. Seven students showed no initial recognition of words although two recognized one word in the second round. Two students were noted to be fast at matching accurately.

WORD SNAP

Word Snap was played by five students. Each student was issued two identical photocopied sheets, one of which was cut into word cards. Appendix 8 contains a Word Snap game sheet. First, students were required to match the word cards to the sheet and identify the words if possible. The word cards were then used in a game of snap, and again, the student who called snap had to identify the word. Finally, students were required to sort the cards collected back into sets matched with the original sheets. This task required cooperation as cards needed to be swapped between players.

Of the five students who played the game, two were successful at the pairing of cards to sheet and both knew some words. The other three students experienced difficulty, one with teaspoon and tablespoon in particular. All students enjoyed the "snap" activity but only one student was not frustrated by the mix and rematch element at the end of the game. This latter activity took some time to complete.

SUPERMARKET VISIT

In the final lesson, a supermarket visit was conducted with students in small groups of five. Each student was issued two grocery word cards and was asked to identify the word/product name. Students were then required to locate the item on the supermarket shelves and then to locate the word/product name on the grocery item. All students in the group then found the word on the item and a new student was selected to find his/her grocery item.

All students appeared to enjoy the supermarket visit. One student only found it difficult to locate the word on the product but she did know the area in the store where the product was shelved.

GROUP TWO

Due to the overall higher literacy level of students in Group Two compared with students in Group One, literacy/numeracy activities in this course were more varied than those presented to Group One. A cooking element had not been intended for the course but due to students' requests in the first lesson, simple cooking exercises were included in alternate lessons and were used as the basis for follow up exercises such as recalling information from previous lessons, reading recipes and copying from the blackboard a story created by the group.

Fewer exercises were repeated and those that were included understanding and writing the day's date, addressing an envelope and the cooking related activities mentioned above. Teacher's observations of the lessons can again be divided into cooking and related activities and literacy/numeracy based activities. A description of students' responses during the three week course is provided here.

Only one Word Recognition Test was conducted and this was in the second lesson. Appendix 9 contains the table of students' responses to the test.

COOKING AND RELATED ACTIVITIES

The first cooking activity was to make butter icing. Students were required to read the recipe, make the butter icing and then ice and decorate a portion of cake. As the class was divided into two small groups, it was necessary to divide a whole cake and the quantity of icing between the group members. The portions of cake were decorated after the correct number of paper plates had been distributed.

Observations of the lesson noted that one student dominated the group she was in and the other students in the group did not object, whereas the other group worked well. Problem solving was good in relation to the division of the cake, sharing the icing and the distribution of paper plates.

In the follow up lesson, the previous cooking activity was recalled as a group story and a list of ingredients, utensils and the instructions for making the icing were written on the blackboard. Students then used this as the basis of a copying exercise. They also read the recipe as an exercise in oral reading and comprehension.

Two students read the recipe with no errors and with good comprehension and two read clearly but did not recognize an occasional word. One student read slowly without missing many words while the other two students missed many words and one also required a guide card in order to read more successfully. Copying was done well by all students.

The second cooking activity was to make asparagus rolls after reading the recipe and locating a list of words from the recipe in a word maze. With respect to the food preparation, students seemed to comprehend the recipe and were able to follow the instructions with guiding questions asked by the teacher.

When reading the recipe only three students read complete sentences and two of them had difficulty with a few words. The other four students read word by word and two were unable to recognize many words.

As an exercise in reinforcing word recognition students were also asked to locate a given list of recipe words in a word maze. Several students made minor errors but overall the responses were good.

In the follow up lesson students were asked to recall the preparation of asparagus rolls and thus a group story of seven short sentences was created. Students were then asked to read the story. Group recall of the cooking exercise was good and all students read the story well.

The goals for the cooking activity in the final lesson were:
- to read a recipe on how to prepare cocktail kebabs and to understand the process
- to locate the net weight of ingredients
- to locate the expiry date of ingredients
- to divide the ingredients equally.

Observations of the lesson noted that one student excelled at problem solving with respect to dividing the ingredients into four portions. This student understood the concept of mass. Another student who located the weight marking but read it incorrectly was assisted by other group members to interpret it correctly. Most students were able to locate and interpret the expiry dates on two of the products being used and calculate how long it would be before the expiry date was reached. All students seemed to read and comprehend the recipe well enough in order to complete the task.

LITERACY AND NUMERACY-BASED ACTIVITIES

The main goals set for students in the first lesson were:

- to complete a re-enrolment form
- to write the day's date in both digit and word form
- to read and understand a public holiday directory
- to locate and mark on a calendar the day's date, own birthday and public holidays
- to predict what might be contained in three gift wrapped boxes of different sizes
- to read a verse from a greeting card randomly selected by the teacher.

General observations of the class were that oral instructions were well understood. The whole group read the directory for public holidays effectively and quickly located the appropriate dates on the calendar. Writing dates required follow up work and students were shown the syllables in October to assist them in writing it from memory in future lessons. Students' selection of birthday cards and paper revealed a lack of knowledge and experience as most had difficulty deciding on paper appropriate for a nominated person. Although students reacted well to the gift wrapped boxes, most gave limited answers as to what the contents might be.

Detailed observations of the verse reading noted that four students were able to read their card verses and one missed three words but made a good attempt. One student tended to substitute words and another student had difficulty reading the unusual script.

In completing the re-enrolment forms, four students used the appropriate block letters, one had illegible writing and one could not distinguish between upper and lower case letters. All students knew their dates of birth and all wrote their signature in cursive script, one illegibly as with his other writing. Five students were able to write the date correctly and five students were able to follow the instructions given for the form completion.

In the second lesson students were asked to:

- recall the activities from the first lesson
- write the day's date in digit and word form from memory
- complete a birthday-related word maze
- recognize the words in the word maze.

All students were able to write the date in digit form correctly and four were also able to write it correctly in word form. Two students did not include the year in the word form and one could not spell October without assistance. Students' responses to word recognition of a list of eighteen birthday related words are contained in Appendix 9. Word maze responses were good overall with some omissions by two students. One student however, experienced great difficulty in locating words in the maze due to an inability to visually transfer the word from one context to the other.

The objectives of the third lesson were again to write the day's date in word and digit form, and various activities related to birthday cards and gifts, such as:

- to identify a person for whom to buy a birthday card, paper and gift
- to spell "present" words from memory
- to select appropriate card and paper for that person
- to follow instructions on how to inscribe the card and address the envelope.

Six students wrote the date correctly in both forms, but the student with the illegible writing spelled October incorrectly and his figures were not clear.

In selecting a card and appropriate paper for their nominated person, three students had no difficulty and one student was indecisive. One student selected inappropriate paper, one required assistance and the last student needed to make a second more appropriate choice of card.

Students appeared to have a good idea of appropriate gifts for the nominated person. Only two students were able to spell the gift words correctly although three students made good attempts. One student had very little idea of how to spell the gift words and the last student received assistance from a tutor. All students but one closely followed the instructions given for writing a card inscription and addressing the envelope.

The literacy-related goals of the fourth lesson included:

- another exercise on addressing an envelope
- finding the contents page in a telephone directory
- locating the postcode section in the telephone directory
- finding specific postcodes.

The teacher commented that judging by students' responses, a step by step explanation of how to address an envelope in block form would have been more beneficial than the use of an illustration.

The list of lesson objectives for the fifth lesson were as follows:

- to write the day's date
- to locate the postcode section in a telephone directory
- to recall how to look up postcodes
- to find postcodes for given towns in Queensland and to enter these in the appropriate space on a worksheet
- to read invitation guide words
- to follow instructions on how to complete the invitation
- to address an envelope
- to fold the invitation according to instructions given.

Students worked well on the postcode activity with only two students making minor errors in postcode digits. The invitation sheet that students were required to complete had stimulus words at the beginning of each line and students inserted the relevant information by copying the example that was written on the blackboard and by following the teacher's instructions. Only one student made an error in copying the telephone number.

The sixth and final lesson focused on addressing an envelope, using a stamp correctly and posting mail in the correct mail box. The students were very productive and attentive and they completed the tasks quickly and effectively. The purchase of stamps at the post office provided the opportunity for students to experience appropriate queuing behaviour and the importance of this. One student only did not follow instructions on where to affix the stamp and this student also was the only one who had difficulty in copying the address onto the envelope from a sample card. Appendix 10 contains 2 samples of the materials representing different genres used with Group Two. Appendix 11 provides a sample of a student's work.

SUMMARY

Following earlier successes in delivering group literacy programmes to adults with intellectual disabilities, this study describes two literacy courses that were offered at Rockhampton TAFE in 1991. The 18 students were divided into two groups according to existing literacy skill levels. Those placed in Group One had little or no reading ability (with the exception of one student), whereas those in Group Two had higher ability levels. The Group Two students had attended at least one earlier course at the TAFE.

A "whole language" approach to learning was taken, so that listening, speaking, reading, writing and numeracy activities were inter-related. It was decided that for the Group One students cookery should act as a stimulus through which a whole range of literacy activities would be encountered. Originally, it was not envisaged that the Group Two course would include cookery, but at the request of the students some cookery was included in alternate lessons.

The prime objective for the Group One students was to facilitate their recall of information gained through the learning experiences. To achieve this end, a range of activities was devised which placed learning in a practical context. In addition, a flexible approach was taken so that the programme evolved as the students' needs became apparent; for example, the teaching of the concept of a dozen was included once it emerged that this concept was a problem for the students.

A range of goals was devised for the students in Group Two including addressing an envelope, reading a recipe, selecting a birthday card, and using a calendar. Again, all literacy tasks were presented in a practical way so that students were constantly utilising gains they made in any area of literacy, and there was a continual emphasis on the development of contextually-appropriate communication skills.

For both groups, this report describes strategies for teaching literacy skills to adult people with intellectual disabilities. The study yields useful information about the teaching requirements of this target group and provides examples of two programmes which utilised the "whole language" approach to learning.

FUTURE GOALS OF THE COURSES

In the event that further funding is granted for the provision of adult literacy/numeracy courses to adults with intellectual disabilities, and that the students who participated in the study choose to continue attending classes, it is anticipated that future goals for the respective courses might be:

GROUP ONE

- to plan more supermarket visits which would incorporate skills such as locating products, purchasing products and calculating change
- to consolidate and develop the group's sight vocabulary
- to further develop number concepts, and
- to use a new experience as a stimulus e.g., gardening, hobbies.

GROUP TWO

- to calculate postage costs, change
- to visit a mail centre to see mail being processed
- to write a friendly letter
- to become aware of other types of cards
- to be able to complete all types of cards
- to conduct personal and business telephone calls
- to write a newspaper advertisement to sell goods, and
- to create shopping lists and calculate the cost of shopping.

CONCLUSION

TEACHER'S COMMENTS

The study was useful in the following respects:

- it raised questions about what was taught to adults with intellectual disabilities and why it was taught
- it required a close analysis of individual students and an identification of their needs
- it reinforced the belief that adults with intellectual disabilities can improve their skills, and
- it reinforced the belief that literacy/numeracy education for adults with intellectual disabilities should be regular and goal-oriented with a "hands on" approach.
- Students would benefit greatly from the opportunity to reinforce the skills learnt at TAFE classes in other settings, thus cooperation is needed between TAFE, the workplace and the home.

TEACHER'S RECOMMENDATIONS

Students in Group Two particularly, would benefit from another course of ten or fifteen weeks and this course could be linked with workplace requirements. It would be beneficial to conduct research into the workplace provision for adults with intellectual disabilities and undertake a training needs analysis into the types of skills required for certain job tasks. Students could then be taught how to develop these required skills.

A STUDY OF THE SUPPORT OFFERED TO STUDENTS WITH INTELLECTUAL DISABILITIES AT REDLAND COMMUNITY COLLEGE

SUE LAAKSO

INTRODUCTION

This report is divided into five sections. The first section provides a description of the Redland Shire, the locality in which Redland Community College is situated. The second section contains background information on the Redland Community College, and information on the support services available to students with intellectual disabilities and to the teachers of students with intellectual disabilities. The third section comprises the observation study, including a description of sample students and their area of study, a description of teachers observed, and observations by subject area, namely: Hairdressing, Business Studies, Automotive and Construction, Hospitality, Communications Subjects, Art and Computer Graphics, Tertiary Preparation Course, One-to-One Support, Technical Literacy Officer, Disability Officer, Adult Literacy Classes, Special Schools Integration Project, and The Resource Centre. The summary provides an overview of teaching strategies used. The conclusion suggests some considerations for the future.

THE REDLAND SHIRE

The Redland Shire covers an area of 539 sq.km. and is located approximately 30 km. east south east of Brisbane City. A number of Shire suburbs hug the coast of South Moreton Bay, whilst several adjacent islands also form part of the Shire. At the northern end of the largest island, North Stradbroke, a satellite campus of the Redland Community College has been established.

The total estimated population of the Shire at October, 1991 was 81,382 persons, with the largest concentrations in the two suburbs closest to the Redland Community College. According to 1986 census figures issued by the Australian Bureau of Statistics, 80% of the population is less than 50 years of age, and 80.6% were born in Australia. Of the 16,000+ families counted in the census, 95% live in separate dwellings, mostly in suburban housing areas, and over 80% of these are house owners or are in the process of buying their own home.

Nearly 50% of households were in the middle to upper income bracket, however 60% of adults counted described themselves as having no educational qualifications. In a breakdown of employment by industry and occupation, the highest concentrations were in the wholesale and retail trades, manufacturing and community services industries respectively. Occupations most cited were clerks, tradespersons, labourers and related workers, sales and personal services, and managers/administrators respectively. Some 3,000 ha. of the shire is agricultural land used mainly for small crops and poultry farming. Industrial activity is limited to light industry.

The Redland Shire has been designated as a growth area by the State Government which has implications for the future. There will be an increased need for amenities such as housing, educational institutions, health facilities and other public services.

THE COLLEGE

BACKGROUND INFORMATION

Redland Community College is one of three Senior Colleges in Queensland. It is located at the northern end of the Redland Shire, and is proximate to the two suburbs with the highest population densities in the district.

Senior Colleges were established to provide the environment, curriculum and learning strategies required to respond to the needs and expectations of both young and mature adults. The College has a mix of people engaged in a diverse range of courses, from Years 11 and 12 to Associate Diplomas, which are offered to post-compulsory students.

The College is part of the Department of Employment, Vocational Education, Training and Industrial Relations, but is also responsible to the Department of Education with respect to Board subjects offered.

The first student intake was in January, 1987, and enrolment numbers for 1991 were 1500 full-time students and 700 part- time students.

Of the 150 full-time staff employed by the College in 1991, 90 were teachers, and of the 140 part-time staff employed, 130 were teachers.

Courses offered by the College include the following:

- Year 11 and 12 Board and College developed courses to gain tertiary entrance or Senior Certificate
- TAFE (Technical and Further Education) Vocational certificate courses e.g., automotive, hospitality
- Adult Tertiary Preparation Certificate courses
- Associate Diploma courses in various areas including Business, Hospitality, Childcare, Commercial Art, Community Welfare, Accounting, Management, Computing, Justice Administration
- Industry Training short courses which allow businesses and employees to update, retrain or develop work-related skills
- Access courses for the community including literacy and numeracy, English as a second language, updating skills to return to the workforce
- Leisure, Hobby and Personal Development courses.

Facilities operating at the College include workshops in the automotive, construction and masonry areas, a commercial kitchen, a restaurant, a simulated motel room, a business agency, computer laboratories, a hairdressing salon, a horticulture shed, a gymnasium, film and television equipment, a dark room, various art rooms, a Resource Centre, a Language and Learning centre, a multi-purpose shelter and a canteen. The overall philosophy of the College is to encourage and facilitate independent learning.

COLLEGE SUPPORT SERVICES

As indicated by its title, Redland Community College is committed to the provision of a wide range of educational services to the general community. An increasingly important part of that provision of services is the integration of students with intellectual disabilities into College life. The College aims to implement a policy of "open access" in both the legislative sense and in the philosophy and spirit that prevail on campus.

The integration of students with intellectual disabilities began in 1989. Nine HARD (Handicapped Association of the Redlands District) students attended College for six hours per week and were given a "taster" of various subject areas, and some assistance with basic literacy and numeracy. In 1990 five of these students enrolled in various courses. They were supported initially by the Adult Literacy teacher and a volunteer support member from HARD. Later that year HARD appointed an Education Officer and a full-time support person. In 1991 the HARD Education Officer resigned, and in July the College appointed its own Disability Officer. HARD now employs two full-time support staff to work at the College with a group of nine HARD students, and these students are also supervised in some capacity by the College's Disability Officer.

THE COLLEGE DISABILITY OFFICER is responsible for the supervision and co-ordination of all students with intellectual disabilities attending the College. This requires working with students and staff in various capacities. Specific examples of his work with students are:

- support in literacy and life skills areas, either one-to-one or small group situations
- assistance in preparation of assignments and study skills
- improving students' self-presentation, self-esteem and self-confidence
- increasing students' awareness of appropriate behaviour in the College milieu.

Work with staff involves maintaining an active networking and referral system, advising on teaching strategies, and providing assistance with communication and teacher-student relations. A major part of his role is to promote the implementation of normalization policy.

Another integration initiative was the Special Schools Integration Project. This project commenced in July 1991 with a group of twelve selected students from two Special Schools in the Bayside area. The students attend classes specifically for their group in various subject areas for two days each week accompanied by a Senior Special Education teacher and a teacher's assistant. The main objective of the project is to familiarize the students with College life, both formal and informal, should they choose to pursue the integration option offered by the College. Observations of the project are presented in the body of the report. Two aspects of the College's integration programme for students with intellectual disabilities are:

- the support services offered to the students, and
- the support services offered to teachers.

STUDENT SUPPORT SERVICES

Support services available to integrated students include those available to the general student population and some additional ones.

THE STUDENT SERVICES COMMITTEE co-ordinates and manages the various aspects of student support facilities, a large part of which involves the students with intellectual disabilities. The Committee operates on a basis of regular meetings, as well as continuous networking and referral activities, thereby reinforcing the function of networking among staff to assist individual students seeking assistance. Committee members are drawn from all sectors of the campus and include the Student Services Manager, the Disability Officer, counsellors, HARD support staff, recreation officers and teaching staff.

TEACHING STAFF can be accessed at any time to provide assistance to students who experience difficulty in a particular subject area. Also, 28 staff members are available for periods of one to five hours per week to provide assistance to students with intellectual disabilities working in their subject areas. Networking and referral among staff is also very effective when a student requires support in a different area. For example, a student who experienced difficulty in the numeracy element of a class in Business Studies or Hospitality could be referred for maths tuition to a teacher from the Maths department.

COLLEGE COUNSELLORS who have experience in working with students with intellectual disabilities are available for counselling in personal, academic and vocational areas. In association with the Disability Officer, counselling staff run programmes on Human Relationships for small groups of integrated students.

A CARE TUTOR PROGRAMME operates to strengthen the association between staff and students. Two hours per fortnight are designated for each staff member to meet with his/her assigned care group, on a pastoral care basis. The care group situation provides a forum for discussion of any concerns a student may have, and individual interviews are encouraged if a concern is more private. From this care situation, the referral of students to a more appropriate staff member with different expertise may arise, e.g., Disability Officer, counsellors, thus reinforcing the value of staff networking.

RECREATION OFFICERS assist students in organizing their time at College to their best advantage. In addition to encouraging students to use the recreational facilities available on campus, and involving students in new experiences like abseiling and rock climbing, officers provide help with timetabling.

A COMMUNITY EMPLOYMENT OFFICER appointed to the Redlands district is located on the College premises. The Officer liaises between the community and students from the College seeking employment.

THE RESOURCE CENTRE STAFF provide assistance to students seeking material in particular subject areas, and in the use of resources housed in the Centre.

THE TECHNICAL LITERACY OFFICER provides specialized literacy help to students enrolled in trade courses. The officer assists students on a one-to-one basis with literacy related to course material, preparation of assignments and for examinations, and building self-esteem and confidence in particular subject areas.

THE LEARNING CENTRE co-ordinates students seeking help in specific subject areas with staff available to provide the assistance required. This is usually on a one-to-one basis. Staff who work through the Learning Centre include:

- teaching staff available for extra tuition
- Resource Centre staff who assist in the area of assignment preparation and study skills development
- the Technical Literacy Officer
- the Disability Officer
- volunteer tutors who are part of the Volunteer Literacy Tutor programme operating through the Learning Centre. The Learning Centre also offers Adult Literacy classes to members of the general community.

THE STUDENT-PEER MENTOR PROGRAMME is another care situation, linking volunteer students from the general student body with students with intellectual disabilities. Although less formal than the Care Tutor Programme described above, similar objectives are pursued. The student acting as a peer mentor to a student with intellectual disabilities provides a model of appropriate behaviour within the campus situation and advises the student in areas that may be of concern.

STAFF SUPPORT SERVICES

COLLEGE DISABILITY OFFICER

Prior to the arrival of the Disability Officer in July 1991, little, if any, information or support was given to teachers who had students with intellectual disabilities in their classes. A priority task undertaken by the Disability Officer was the dissemination of information on teaching strategies (Appendix 1) as well as information on various forms of intellectual disability. (Note: The sequence of numbering the Appendices starting at 1 has been retained for each Special Report. All appendices appear in Volume 3).

Where possible he also provided background, personal and medical information that would assist the teacher to relate more effectively to the student and adjust teaching methods to better facilitate the student's learning process. For example, a female student with autistic tendencies often needs to be re-focused on the immediate task. If left unattended, her intake of information is limited, as is her level of productivity. There remains an ongoing need for contact between the Disability Officer and teachers involved with integration, both to monitor the students' progress, and to deal with any difficulties that may arise.

Other roles of the Disability Officer are the maintenance of the networking and referral systems operating among College staff, through which requests for assistance are made, and the implementation of normalization policy. To further address the need for professional development for staff involved with integration, in-service training courses were conducted in November 1991, by the Disability Officer. Titled "Disability, Society and Change", the half-day sessions covered the following subject areas:

- Societal change
- Legislation and legal implications
- What is a disability?
- Types of disability
- New language - appropriate terms and terminology
- TAFE in provision: legal implications, occupational health and safety, provision of services e.g., Disability Officer, in-service training, curriculum building.

Further in-service training courses are planned for 1992 and these will focus on teaching strategies for teachers of students with intellectual disabilities.

OTHER IN-SERVICE TRAINING COURSES which focus on specific disabilities were conducted by the two full-time support staff employed on campus by HARD. The two sessions to date were on autism and schizophrenia.

THE TECHNICAL LITERACY OFFICER provides support to technical teaching staff with students with intellectual disabilities in their classes. The Officer advises on teaching strategies, curriculum building and improving the literacy content of courses.

STAFF NETWORKING AND REFERRAL SYSTEMS operate to provide support and information to staff dealing with integrated students, in both the classroom and the care tutor programme. Due to his responsibility for co-ordinating the staff and students involved in the integration programme, the focal point of the network is the Disability Officer. The Student Services Committee and College counsellors also play an active role in maintaining the networking activities amongst staff and the referral system.

FUTURE DIRECTIONS

The continuation and expansion of the integration programme for students with intellectual disabilities is a major feature in the College's plan for the immediate future. The continuation of the Special Schools Integration Project is also assured in the immediate future. Further professional development courses for staff will be conducted, and these will focus on access and equity issues and teaching strategies. Integrated students have requested workshops as part of student support to facilitate their participation in the integration programme. Due to the thrust of normalization policy, a proposed programme to recruit and train volunteer tutor/support persons to work with integrated students may not be conducted. Instead a proposal has been made to invite volunteers with professional expertise to support students in their related vocational course area.

THE OBSERVATIONAL STUDY

The observations in this report were made between the beginning of October and mid November 1991. Some class situations were observed more than once and all students in more than one situation. Data was collected by "sitting-in" on classes (without participating) and by making anecdotal records of class proceedings, and also by incidental observations of students in their day to day College activities. Information gathered from teachers rounded out the observations that have been presented herein. This information was collected via informal conversation with teachers, usually after the class situation observed.

The descriptive terms - students with intellectual disabilities and integrated students - are used interchangeably with respect to the students in the sample.

OVERVIEW OF STUDENTS OBSERVED AND THEIR AREAS OF STUDY

Fourteen students with an intellectual disability, nine males and five females, were observed in class situations and one- to-one support sessions, over a six week period. The ages of the students ranged from late adolescence to 35 years.

The subject areas in which the students were involved were heavily skewed towards the vocational, as mainstream subjects offered by the College are the equivalent of the final two years of a secondary school curriculum. The two year pre-vocational courses in which the majority of integrated students participated were in the following areas:

- Hospitality
- Automotive
- Hairdressing
- Construction
- Business Studies.

These courses aim to provide the student with the knowledge and skills relevant to an employment situation. They also provide course content equivalent to a first year apprenticeship for which the student would receive an exemption if an apprenticeship were gained. Where a student has particular needs, such as literacy or social and communication skills, subjects such as Improving Reading and Writing, Life After College and Human Relationships can be taken with the employment related subjects.

A breakdown of the age and gender of students in each area is as follows:

Hospitality - two late adolescent males and two females in their mid-twenties
Automotive - two late adolescent males
Hairdressing - one late adolescent female
Construction - one late adolescent male
Business Studies - two males, one late adolescent and one 20 years.

Three students (two males aged 35 years and 16 years and one female aged 29 years) took a combination of subjects of their choice. One male student followed a mainstream Art course and a Computer Graphics subject, whilst the other did Basic Computing, Improving Reading and Writing and Human Relationships. The female student had enrolled in the Business Studies course but after finding that "I couldn't keep up with all the paper work they kept throwing at me", she continued with the Basic Computing but changed to Improving Reading and Writing and Basic Cookery. The Office Practices teacher observed that the student's level of comprehension was not adequate to deal with material being presented in class. The remaining student, a female in her early twenties, was undertaking the first year of a Tertiary Preparation Course (two years part-time or one year full-time) but due to her inability to attain the required standard, she had been counselled to change to the pre-vocational Business Studies course in 1992, an area where she has had prior employment experience.

All of the pre-vocational courses, as well as Art, contained both practical and theory elements, and for some students, periods of work experience. As an adjunct to the subjects enrolled in, the student may also have received one-to-one support, usually literacy-based, from teaching staff or Learning Centre staff or the Disability Officer.

Assessment format and standards of attainment are sometimes negotiated between the student, teaching staff and support staff, if prescribed course requirements are inconsistent with a student's abilities or literacy levels. Because of the strong commitment that teaching staff have developed to the integrated students in their classes, the general feeling is to assist the students to achieve to their optimum individual capacity rather than adhere to usual course requirements. Detailed instances of assessment will be referred to in context.

Only in the Tertiary Preparation Course are such negotiations not possible as all students are competing for matriculation scores. The student observed was provided with various opportunities of one-to-one assistance and was permitted to attempt assessment tasks more than once.

Six of the students, three female and three male, were associated with HARD (Handicapped Association of the Redlands) and therefore, could access support from two full-time female personnel on campus, employed by the Association. This support did not extend into the classroom but did include daily assistance with orientation, time management, negotiations with staff on the students' behalf and literacy help in the form of assistance with assignment preparation. It is anticipated that in the near future, this extra support for the HARD students will be phased out. All necessary support will then be provided by the College Disability Officer and through other College facilities, as the philosophy of the College is to foster the independence of all its students.

As with any group of individuals, students in the sample displayed wide variations in factors such as intellectual abilities, communication and social skills, levels of self-confidence and self-esteem, and life experience. The amount, and forms, of support received by students outside of College ranged from a female student of 25 years being not permitted by her mother to wash her own hair, and a relatively capable 35 year old male student being not permitted by his parents to use public transport alone, to a late adolescent male living alone in a caravan some distance from the College.

It can be argued that all these factors of daily life contribute to an individual's level of literacy and again, wide variations were observed within the sample. Some students experienced less difficulty than others in reading texts presented in class, while some exhibited negative reactions to any printed material. All students, however, required assistance in the preparation of assignments and showed a lack of, or limited, conceptualization skills.

The ages of the twelve Special School students, six females and six males, clustered around mid to late adolescence. These students were selected on criteria such as maturity, ability to behave appropriately in the College milieu, motivation and commitment.

OVERVIEW OF STAFF OBSERVED

The teachers of the students with intellectual disabilities also displayed a variety of skills, attitudes and experience. A common characteristic was their strong commitment to the integrated student or students in their class and the desire to contribute to their development, both educationally and personally. This attitude prevails throughout the College, and was highlighted by the small group of teachers participating in the Special Schools Integration Project. It was necessary for these teachers to review their overall approach in teaching the Special School students who have a lower literacy level than students in other classes.

There was general agreement that participation in College life and courses had afforded sample students opportunities for personal, social and intellectual development that had produced very positive results. However, there was also a general concern among staff observed that expectations held by students and their supporters were often unrealistic, especially with respect to employment opportunities. Teachers also commented on the degree of personal stress and frustration they experienced when the level of effort they injected into teaching a student with intellectual disabilities was not reflected in the student's academic achievements.

Four factors that teachers commonly referred to as necessary to increase their effectiveness in teaching integrated students were:

- more background information on the student
- more time on a one-to-one basis with the student
- time to prepare appropriate course material for the student, and
- professional development with respect to teaching strategies appropriate to students with intellectual disabilities.

The team of hairdressing teachers was more conversant with strategies for dealing with the literacy needs of their students, as one of the team had studied a literacy component in her teacher training programme. As an assessment project, the teacher had produced a simplified text for students on a particular aspect of hairdressing, and this is now used in the College course. The teachers are committed to simplifying textual material for their students and usually precede the study of text by the pre-reading techniques of group discussion or brainstorming of each new section of theory to be covered.

Staff members involved with students with intellectual disabilities on a one-to-one basis were either trained in literacy teaching techniques e.g., the Technical Literacy Officer, Disability Officer and adult literacy class teachers, or were teachers who were familiar with techniques that are appropriate for students with particular literacy needs.

OBSERVATIONS OF LITERACY-RELATED ISSUES BY SUBJECT AREA

HAIRDRESSING

"A lot of people say if your daughter can't do anything else, get her into hairdressing, but they don't realize the level of science that is involved in hair care. They think it is just doing hair." This comment made by one of the team of hairdressing teachers raises the possibility that literacy levels among students who enrol in hairdressing may often be lower than in other areas of study. During the period of observation of one student with intellectual disabilities in the class, numerous other students were indicated as having received remedial or resource teacher support for their literacy needs at secondary school. However, as mentioned earlier, teaching strategies used by the teachers were aimed at "reducing the difficulty factor" of the textual material presented to students, as well as optimising the students' intake of information.

Lengthy discussion periods led by the teacher focus on the new topic to be introduced and act as pre-reading and information gathering exercises before the text material is introduced. The blackboard is then used to emphasize particular points and to establish correct spelling of terms, sometimes by syllabification e.g., per-pen-dic-u-lar, which students copy from the board. If a topic sheet is being used, students are directed towards words and phrases that should be highlighted for easy reference at a later date.

Dictionary exercises may also be used to reinforce the spelling and meaning of words and terms being studied. Students are involved in creating charts and signs that define words and terms and these are hung around the simulated salon classroom. As follow-up exercises to reinforce new terminology, teachers use crosswords, word mazes and games to match words with their meanings. When a text is read in class the teacher attempts to simplify complex sentence structures and emphasize the relevant and important features by the interpretation process. Also, text information may sometimes be reinforced by dictation exercises.

Appendix 2 contains extracts from two component booklets used by students to cover a unit of work in hairdressing, in this instance Trade Technology II, ph scale. The page marked A is from the information booklet used as a text, and the page marked B is from the response booklet. The page marked C is a theory assessment sheet. With the former, the student reads through the text, either independently, or in class with assistance from a teacher. The student then uses the response booklet to consolidate the knowledge gained from the text, again with assistance if necessary. The completed response booklet is used as the assessment of the unit. Assistance given by a teacher focuses on explanation and interpretation of information the student does not understand or is unable to read. The theory assessment sheet is used to assess the theoretical element of a unit of practical work. In considering the two forms of assessment, types of questions and responses used include:

- multiple choice
- cloze
- true/false
- diagram response
- short answer
- demonstration/experiment
- written assignment

Another teaching strategy used in Hairdressing focuses on the kinesthetic medium of model-making. As an assessment project, students created collage-type, two-dimensional models, using a range of materials including textile and vegetable, to convey more effectively the details of the structure of the scalp and hair.

The importance of numeracy skills was highlighted by a teacher's comment. "Students have to be able to read the numbers on the side of the (perming solution) bottle because too much solution for too long can burn a customer's hair and scalp." Numeracy is dealt with as it arises, usually by a demonstration of solution preparations, and by focusing students' attention on the product information.

As well as addressing the theoretical and practical elements of the formal curriculum, some time is allocated to the more informal elements of the day-to-day workings of a salon, and the literacy-related skills involved in these. Students are given practice in telephone skills, keeping an appointments book and banking procedures. Much attention is also paid to building the students' self-esteem and self-image and improving communication and social skills. The team of teachers aims to develop their students into well-rounded, confident individuals who possess the knowledge and skill that will be required in the work situation.

This teaching-learning environment was very supportive for the student with intellectual disabilities studying hairdressing. The student had high level manual skills in hairdressing practice, but her reading and writing skills were inadequate in dealing with the theoretical content. She required a high level of individualized instruction when working through theory elements. When possible, the teacher read and interpreted the information in the text and response booklet to the student, but the student would often give incorrect responses through lack of understanding. An example was the ph unit which required conceptual skills the student lacked. If the teacher was unable to spend time with the student, a regular student was asked to help her read through the text or to read it to her, and explain the parts the student did not understand. The teacher commented that the student often needed prompting to embark on a new theory component. Concessions had been made with respect to the student's assessment. For example, although the tactile model was to be presented and discussed in front of the class, due to the student's lack of confidence in her speaking ability, she was permitted to present it to the teacher alone. Also, due to the student's poor reading and writing skills, she was "talked through" a test situation instead of having to complete the written response. The student also worked on a regular basis, one-to-one, with the Technical Literacy Officer who assisted the student to complete progressive assessment items, helped her to read through set text material, and worked on writing practice based on information covered in the classroom.

A more detailed observation of techniques used by the Technical Literacy Officer will be presented in a later section.

BUSINESS STUDIES

It is necessary for students who consider enrolling in a Business Studies course to have attained a "reasonable" level of literacy skills (reading, writing, numeracy, listening and speaking), particularly as the associated practical tasks e.g., typing, editing, and collating, also have inherent literacy components. This is in contrast to the practical tasks in other areas such as pulling down an engine or cutting hair, neither of which require reading and writing in their execution.

Unlike the female student mentioned earlier, whose poor literacy skills caused her to withdraw from the Business Studies course, the two male students appeared to have attained the requisite literacy level. However, spelling errors were common in their work and editing practice was often not thorough.

Despite their level of literacy skills, it was observed in the classroom situation, and in teachers' comments, that the students did not appear to have the level of comprehension required to function successfully in a real-life office situation, unless certain conditions prevailed e.g., assigning the student a set range of tasks with regular supervision. This low level of comprehension skills affected their "paper work" and their level of functioning in the task-oriented area of Office Practices which included typing, computing and work in a simulated office situation within the College. It was often necessary to remind and re-instruct students in their set tasks, to assign them a sequence of tasks rather than one complex task and to have someone present to keep the students focused and supervised.

Of the two students observed, one had a higher achievement level but over the two year course had attempted assessment projects two or three times before a satisfactory level was attained. It was felt by the teachers that the other student had made minimal achievements academically although he had been in the course for more than two years. Also his attendance had been affected by illness, adjustments of medication and family upsets. Both students received assistance outside the classroom when working on assignments, one from supportive parents and the other from the HARD support staff on campus.

Each student was seen to have poor retention wnen dealing with a set of instructions in the simulated office. "I need to remind him what to do next even though I went through the whole thing step by step at the beginning". A short concentration span and distractibilty, meant students needed to be re-focused on the task in hand by someone else. "Sometimes he doesn't finish what he's doing and wanders off, so I have to get him started again and see that he finishes it." One student also had a low frustration level and when in a stressful situation became flustered and had been reduced to tears on more than one occasion.

Neither student coped well in multiple-task situations. "If he has to concentrate on special setting up in typing then his typing goes off, but if it is straightforward he is O.K." and "If you give him more than one job to do in the office, he can't do them together, only one at a time." One student had completed a period of work experience and reported great satisfaction and enjoyment from the experience. However the report given to teachers by the employer commented on the student's "lack of material between the ears" which would reduce his chances of gaining employment there. The teacher counselled the student to return to College for another semester, and with parental approval the student agreed to do so. It seems that this student would function well in a work situation with structured, routine tasks and an employer and co-workers who were aware of his limitations.

The student receiving assistance with assignment work on campus was able to access resource materials with the assistance of Resource Centre staff, and then work through contents pages, chapter headings and index to locate relevant material in the text. His difficulty arose in the interpretation and re-wording of text material into answer form. He was reluctant to work alone and did not stay focused on the task. When supported, he liked to read every sentence aloud to check with another whether it was acceptable and correct. Both support staff and teachers commented that the student worked best if the assignment topic was well structured, clearly defined and segmented into smaller questions. Other comments were that the student would read only the first part of the assignment and choose to work on that, or would seek out what he considered to be the easiest part to answer and leave the remaining questions unanswered.

When using a word processor to type assignment answers, he would make repeated copies with only one spelling or structural correction made on each copy, rather than using the word processing function optimally by correcting all errors and doing re-drafts in the one operation. Appendix 3A contains an assignment question sheet and a sample of the student's response. This assignment is also an example of course modification in that it was set in lieu of the student undertaking a period of work experience and another written requirement.

As the other student had support at home, it was difficult to gauge the type of assistance given to the student. However, a teacher commented that she could notice a difference in the work the student had assistance with, and was concerned about his level of input. Also, the student had admitted to the teacher that "We had trouble getting through that section" which indicates that the support is continual.

Because the book-keeping and accounting subjects are text-based, self-paced units in which students are required to do individual reading and associated written responses, teachers are limited in the strategies they can use to assist a student. Individualized attention was given to students who required assistance and within this one-to-one interaction, the teacher explained and interpreted textual information in a simplified form to the student.

Another strategy used by the teacher was the encouragement of peer support in the classroom. One of the students observed (the student who received support from home) was particularly helpful on this level. "When somebody needs to know something, I get X to explain it to them. He takes a while to understand things but once he has mastered it he is very good at explaining it to other students." Appendix 3 B contains extracts from the accounting text and response book of this student.

In the computing subject taken by the two students observed, course work was again self-paced, progressing from operating basic programmes to the more complex. Teaching strategies used were mainly one-to-one teacher-student explanations, or students working in pairs to provide assistance when necessary. The two students observed often worked together and seemed to have good rapport. Peer assistance given in these situations was usually a suggestion as to what the next step might be, or a recommendation based on what the student had done himself in that situation. For example, "How do you get out of … ?" "You have to go back to … then … ". "Do you know how to get the printer going?" "Yes, I'll show you."

The teacher appeared to spend more time with the students observed, although she felt that she didn't and said she would like to be able to give them more time if it were possible. She also commented that she would like more background information on the students and was willing to do any in-service training courses to assist in her teaching strategies. Her assistance was on a question and response basis such as, "Did you do … first?" "Have you done … yet?", and the use of prompts such as "Try doing … and see what happens."

The teacher felt that the self-paced format suited the students because they progressed through the work more slowly than other students. Also, one of the students will often not adhere to the prescribed format but will go about it in a different way. "If he chooses to do something else, or do it a different way, I let him go as long as it produces the same result." Again the low frustration level of the student mentioned earlier was remarked upon, "He can get very frustrated and stressed sometimes and has to leave it until I can help him sort it out." Both students responded well to a small-step instructional format rather than a large agenda, but the teacher felt that they lacked a certain "creativity" factor necessary to master more complex computerized systems.

AUTOMOTIVE AND CONSTRUCTION

Due to the parallels that exist in the structure and conduct of the Automotive and Construction courses, it is preferable to discuss them together.

Although it has become less acceptable to indicate gender-based differences that may affect a situation, there was a noticeable change in teachers' attitudes and objectives between the hairdressing and the automotive-construction areas. The latter had no female students and the emphasis was on performance and productivity rather than on the qualities of the individual that were evidenced in hairdressing. The automotive and construction teachers were still caring, and always available for consultation and assistance, but a student might be less likely to seek out assistance when the emphasis is work-centred and male-dominated.

Two students were observed in the automotive area and one in construction. As the construction student came from a background of builders, he was exposed to "trade talk" in extracurricular time. Due to his low level of literacy skills and conceptualizing ability, teachers felt it was unlikely that the student would attain the standard necessary to complete an apprenticeship and become a tradesperson. They felt that he also realized this, so realistic expectations were maintained by the student and teachers. He exhibited an enthusiasm for work, always listened to instructions and did as he was directed, and given time and support, could carry out low level problem-solving tasks. His participation in the College milieu had also developed his social skills, and his level of literacy had improved marginally due to the support he received regularly from the Technical Literacy Officer. He did a certain amount of work at home on literacy-related tasks like assignment preparation and technical drawing.

Of the two automotive students, one had such low skills in literacy-numeracy and practical areas that his first year at College had been treated as a familiarization year. It was hoped that the student would learn basic, background knowledge that he presently lacked, certain manipulative skills in areas like welding, dealing with engines, and technical drawing, and finally the social and communication skills he had not fully developed. Assessment concessions had been made in that the student was assessed on what he had learned rather than what he should have known according to course requirements. He attended classes consistently and was highly motivated, had attempted the required range of assignments, and had asked to participate in examinations. He also received support from the Technical Literacy Officer when he requested it.

The second student, on the other hand, had attended erratically over the year due to personal upheavals, for which he received counselling and care from one of the automotive teachers. Due to the personal instability, his motivation and performance had been inconsistent. He had low level literacy skills and a marked negative reaction to any printed material, choosing to give up rather than attempt it. Numeracy, however, he enjoyed and preferred to do mental calculations where possible rather than use a calculator. His manual skills were not high but he had more background knowledge than the student described above and he spent time in a garage outside the College doing odd jobs to help out. Although he had attended erratically throughout the year, he had received some assistance from the Technical Literacy Officer. As assignments fell due, he had requested more support to complete what was required, and had done some independent work in his own time.

"These kids (whole class) would rather be anywhere else than in a theory lesson." - automotive teacher's comment.

"They were good today because you (observer) were there and they thought you were checking up on them." - construction teacher's comment after a technical drawing lesson.

As in Hairdressing, course content was modular and handouts either included response pages or were accompanied by a response booklet. Appendix 4A contains two pages from a handout with in-built assessment exercises used early in the course.

Text information was presented in various forms including:

- labelled diagrams
- magazine articles
- tables
- specification charts.

Theory lessons in automotive and construction were conducted on similar lines. In automotive, a handout or a maintenance manual was distributed to each student and these were read through in class by the teacher who:

- explained and interpreted the information progressively
- linked it with the reality of the workshop situation, and
- reinforced it by questioning students on their understanding of the point made.

The two students observed in the theory class did not have the reading skills required to closely follow the teacher's reading so their attention wavered. The teacher often re-focused them with questions such as "Did you understand that … ?", "Do you know what I am talking about … ?" In one instance, he directed both students to go to a nearby car with a second teacher to have a close look at the part being discussed.

Construction theory classes also centred around the teacher reading from a handout. Appendix 4B is an extract from one of these handouts. Students were issued with handouts identical to that of the teacher but with certain blank spaces. The teacher dictated from his copy, or displayed on an overhead transparency, the information to be inserted by the student. "We do it that way to keep them on the track, otherwise they don't listen." As in automotive, the teacher used the same strategies to reinforce the information received by students. Although the student observed had insufficient literacy skills to complete his handout in the required time, he had the regular support of the Technical Literacy Officer. She assisted him to complete it and further reinforced his understanding of the information by working through it more slowly and interpreting any terms or sentences which he found difficult to comprehend.

Assignment work in automotive was done on a regular basis and in modular form. Students used handout information or maintenance books to respond to questions in formats similar to that found in hairdressing:

- labelling of diagrams
- crossword exercises
- cloze exercises
- multiple choice answers
- comprehension questions relating to a magazine article
- chart preparation
- verbal presentations
- student demonstrations, experiments, model-making.

Construction assignments followed a similar pattern in that they required answers that could be retrieved directly from class handouts. However, they also featured more complex questions which required wider research and interpretive skills. Appendix 4C features a sample. For the student with limited literacy skills, the support of the Technical Literacy Officer was necessary. Strategies used will be presented in a later section.

Technical drawing lessons centred around the teacher demonstrating operations with a compass and set square on the blackboard and students copying the steps. The teacher frequently related the operations being done to examples of how they might be applied at the work site or in other real-life situations. Small-step procedure was used but the complexity of drawings increased with each step and the student observed had difficulty keeping pace with the procedure.

He received individualized attention from the teacher, who commented on the student's poor retention from week to week. Another student also assisted him by answering the student's questions about what to do next and demonstrating the required operation. The teacher would often set the student a basic exercise while the class moved on to more complex concepts. In the auto-graphics lesson, the student in the familiarization year was set tasks such as copying designs or diagrams to increase the manipulative skills needed to use the requisite implements such as compass and set square. Because his numeracy level was low, he had difficulty reading, and making, measurements. Also, due to poor retention of information, he required re-instruction from week to week on various manoeuvres. He received individualized attention from the teacher where possible, and was paired with a regular student of higher ability who provided assistance by demonstrating the operations that were required to complete an exercise.

The second student had better manipulative and numeracy skills and could execute the tasks set in class. Teaching strategies again centred on a blackboard demonstration, which was copied by students, and individualized attention when it was required. A sample of one of the student's work is contained in Appendix 4D.

In the examination situation, as in hairdressing, if a student had insufficient literacy skills to read and respond to questions, a teacher would read the questions to the student and assess the student on the response that was given verbally. Furthermore, if a student did respond in written form but the answer was not legible or understandable, a teacher would ask the student to explain the answer verbally and mark that response.

Live work and site work was used to develop the practical skills students need to work in automotive or construction industries. At the construction site, the student observed worked at specified tasks with other students in a team situation. He was capable of listening to a set of instructions and executing them without the need of re-instruction. As students were not given the opportunity to anticipate a new task without prior instruction, it was difficult to judge what the student's ability would be. However, as mentioned earlier, when set a problem-solving task involved in the construction of a doorway, and given time to work on the task, he was able to formulate a solution and carry it through independently.

In live auto sessions, pairing of students was again used, particularly of the student in the familiarization year with a regular student of higher ability. In these situations the higher level student was asked to show, and explain, what he was doing to the integrated student and provide him with opportunities to assist in the task where possible. The student was also assigned to basic jobs that could be repeated from car to car, e.g., checking oil levels and topping them up. Because of his poor retention, he could not be assigned more complex tasks. Instead of remaining focused, he would often stand and watch other students until a teacher or student re-focused his attention.

HOSPITALITY

In the hospitality area, students were required to spend time in both the kitchen and the College restaurant. Kitchen duties included the preparation and serving of food for functions held in the restaurant, and restaurant duties included table preparation, table service and bar service. In addition to this practical work, students attended theory lessons in cookery and service which were assessed by assignments and examinations. The practical elements of the course were assessed continuously by the teacher in gauging the student's performance of set tasks, and by examinations involving specific tasks such as setting a table in a particular style.

Two female and two male students were enrolled in the course and the other female student participated in the cookery class only, due to a physical disability. One of the male students had a very low literacy level, poor manipulative and comprehension skills and limited social skills. His limited ability to use a knife caused safety concerns, and his comprehension level limited the tasks he could be assigned. He was counselled by teachers and his care teacher to withdraw from the theory element, which he did.

The other male student was at a similar competency level and also displayed aberrant behaviour when frustrated or stressed. It was suggested by teachers and his care teacher that he also withdraw from the theory element but a parental request was made that he continue in all aspects of the course. The presence of the student caused a degree of stress to the teacher and other students, and repeated experiences of failure to achieve the required standards had increased his own frustration and stress and subsequent behavioural outbursts. He had received literacy support in theory and numeracy from a teacher early in the course but this was discontinued as his parent arranged private tuition at home.

Of the two female students, one had a higher literacy ability than the other and was able to execute a given task more capably. The second student, like the two male students, was very distractible with a short concentration span and poor manipulative skills. For safety reasons, she used a peeler instead of a knife and was not assigned anything but basic and repetitive tasks. Both female students were also associated with HARD so received support in assignment and examination preparation from their support staff.

Teachers expressed concern over the integration of students with intellectual disabilities into the hospitality area on two counts. First, because the milieu is highly task-oriented and performance-oriented, the literacy needs of the students focused on the listening and speaking components more than reading, writing and numeracy. Limitations that were common in the students observed included:

- poor comprehension of instructions
- poor short term and long term retention rates which increased the need for re-instruction
- poor ability to carry out complex and lengthy sequences of tasks
- distractibility which increased the need to be re-focused on task by another person
- limited ability with fine motor skills in tasks such as chopping, slicing, icing
- lack of speed in executing tasks
- poor ability to work under stress
- inability to anticipate and carry out further tasks without instruction.

As all tasks are performed within time constraints, which can often be severe, the surrounding stress levels are high and affect all participants. If students cannot perform a given task in a set time, they are assigned to the routine, repetitive tasks of cutting up, if they are competent in using a knife, washing up and cleaning up. In order to involve the less capable female student in plate preparation, the teacher had the student place the same quantity of the same vegetable in the same place on each plate. Most teachers treat the kitchen lesson as a real-life situation, thus they use language and behaviour which are context-based. Directions commonly heard in the class include, "X, I thought I told you to do the strawberries next. Come on boy, we haven't got time to stand around doing nothing."

The second area of concern to teachers was the low level of social interaction the integrated students engaged in with others in the highly social and personal atmosphere of kitchen and restaurant. "If someone lays a hand on him or yells at him, he jumps a mile or falls to pieces." "You have to put up with a lot (of stress) when you work in this environment and being able to relate to others is essential." "They (integrated students) have improved a lot since the beginning of the year, but they still have a long way to go."

Certain other skills, such as the use of appropriate language and management of an order pad, were necessary to wait at table. "She is just as likely to tell them what happened this morning instead of taking the order, and when she does you can't read it." "When she comes to the (serving) bay to get an order I have to quiz her to find out what table it is and how many she wants. She can't seem to initiate the request herself." The menu was written on a board and students were directed to familiarize themselves with items listed, but factors like poor retention and the time constraints operating appeared to negate prior learning.

When a cookery class is not function-directed, recipes such as that in Appendix 5A are followed. Two of the female students were able to follow class procedure with minimal intervention, whereas the other three students were paired with a regular student of higher ability. In this case, the student observed would have the opportunity to model their task responses on those of the higher level student who would also provide an explanation and a reminder of what was required. Teachers also provided individualized instruction when possible. Often, as their concentration lapsed, the students would stand and watch other students work if they were not constantly re-focused.

Teachers related cookery theory and service theory to real- life situations where possible. Some lessons featured discussion sessions to draw on students' prior knowledge of a subject, or work in small groups for the same purpose. This was followed by the use of an overhead transparency or a handout to structure the information. Others focused on the blackboard or overhead transparency to present the information in diagrammatic or point form e.g., cuts of meat from a beast. One teacher preferred to keep handouts to a minimum as they "get lost". Appendix 5B contains an extract from sample theory handouts on fish and wine.

The two female students in theory classes copied information from the blackboard and followed class discussions, with the teacher directing questions at the students to gauge their understanding e.g., "Do you know what a buffet is?" The male student showed indifference and did not participate. The teacher made repeated efforts to re-focus the student by asking him questions also.

Assignment formats were also practically-based. In one case, students were required to present in chart form, information on the nature and uses of a range of herbs and spices, and in another, to prepare a menu for a particular occasion using French and English terms. The female student with the higher literacy level was able to work through the text and create a short description of each item with only minimal assistance. The other female student was given a modified assignment task. She was assisted to read the text material and was then given an indication of appropriate passages to transcribe.

As in the other areas observed, examinations were designed to assess the student's knowledge of the real-life situation, e.g., styles of vegetable cuts, characteristics of various wines. Examination format can include:

- single word answers
- multiple choice
- short descriptions of terms.

One teacher encourages his students to visualize the situation to which the question is related.

In the case of the male student with low literacy skills, written responses were discussed with the teacher after the event and the student was re-marked on his verbal responses. Appendix 5C contains a copy of one page of the completed examination paper. The female student with similar ability was "talked through" the theory test by the teacher but after three or four questions her attention and concentration lapsed so it was discontinued. The teacher had also assisted the student in her modified practical examination by explaining and describing the three steps that she was required to carry out. He also suggested that she watch other students to help her remember what was required. After a short time, the student remarked that she did not know what to do so did not continue with the examination.

The two female students did weekly work experience in the College canteen, where the student with the higher capabilities was assigned the task of cooking hamburgers and cleaning up. She executed her tasks competently with little need for re-instruction or re-focusing. The second student, due to her limitations described above, was assigned cleaning tasks and washing up.

COMMUNICATIONS SUBJECTS

These subjects are options available to pre-vocational students and include:

- Improving Reading and Writing
- Life after College
- Human Relationships.

The latter two were discussion-based with the teacher directing discussion of particular subjects such as smoking, drug use, rape, and family dynamics. All students were encouraged to contribute their opinions to the discussion, with answers to questions such as "What do you think about it … ?" and "How do you feel about this … ?"

Assignment formats included conducting a survey on smoking, the presentation of a short talk on a particular subject, and an investigation of a range of community agencies.

Course objectives were:

- the building of students' self-esteem and self-confidence
- to provide a small-group forum for public speaking exercises and the presentation of opinions
- to increase the social interaction between students with an intellectual disability and other students.

The participation rate of the sample students appeared to be consistent with that of other students involved.

The Improving Reading and Writing classes were structured along literacy class lines, but with two or three teachers conducting each class. The variety of activities presented included:

- creative writing
- spelling lists
- dictation
- punctuation
- comprehension

Some of the integrated students worked together in sharing ideas and clarifying or repeating task instructions, and teachers worked with students individually throughout the lesson. Work on assignments from other subjects provided exercises in improving written expression, paragraphing, spelling, punctuation and grammar. The assessment format in this subject was an on-going personal journal which encouraged students to incorporate some writing into their daily routine.

One of the male students from Hospitality who had low level literacy skills, often voluntarily focused his efforts on illustrated creative writing exercises, a sample of which is contained in Appendix 6. The teachers felt this was of more value to his literacy development than adherence to class procedure. This student also had regular one-to-one literacy support from the Disability Officer, but as little improvement was made, and his "life skills" were also low level, the focus of support was shifted to the latter. The literacy component of these skills was addressed simultaneously.

ART AND COMPUTER GRAPHICS

Two students, one of whom was the female student who performed at a lower level in Hospitality, were enrolled in Art. Components included print-making, cartooning, painting and art and craft. Some concern was expressed by teachers as the subject is matriculation-oriented, demanding a high standard of work. However, separate assessment criteria were negotiated with respect to the integrated students, who were set assignments appropriate to their level of ability, with assessment of work on an individualized standard. Appendix 7 contains one page of an Art assignment sheet. The questions the student was to complete are crossed.

The female student who took only the cartooning component attended erratically, and because of her distractibility, needed regular re-focusing and re-instruction. The male student was highly motivated and task-oriented - "He just keeps on working until you tell him it's time to stop" - but lacked confidence and social skills due to a severe speech impediment. This meant the student never asked for assistance or initiated communication of any sort, leaving the teacher to check his progress and ask if he needed assistance. As his interaction with other students was also limited, no peer assistance was forthcoming. The student was able to follow instructions to complete tasks, and had very definite work objectives, but his work was of a mid-primary level that lacked the more sophisticated creativity of fellow students. This student became confident in his accessing and use of Resource Centre materials. He tended to by-pass the computerized catalogue by familiarizing himself with the shelf location of art materials, and only requested staff assistance for particular needs, e.g., the questions featured in Appendix 7. Staff would assist him to locate relevant materials using contents pages and index, and the HARD support staff would then assist with structuring a response. He also became confident in his use of the photocopier.

The student's work in computer graphics again reflected a simple design level. The teacher remarked that his first item had been superior to those drawn by other students, but with practice, they had soon surpassed his level of design. As the student had poor long-term retention of detail, he had created a personal procedure manual for his basic computer use, as an assessment project. The teacher used this strategy for the two female students in the class as well - the student who had withdrawn from Business Studies and the student in the Tertiary Preparation Course. The former had not kept pace with the computer graphics element, so the teacher suggested that she concentrate her efforts on the word processing function. Her progress continued to be slow, but by the end of the year she was able to set out a letter, write a brief personal resume, and set out a personal budget format.

Teaching strategies focused on individualized attention and pairing of students. The male student and the female student who worked at a higher level sat together and she monitored his progress regularly. Where possible, she would provide the solution to any problems that arose, or alternatively, she would request assistance from the teacher on the male student's behalf. Because the male student did not openly seek assistance, the teacher gauged his need by watching for cues such as repeated nervous movements which the student made when under stress. In one instance, the teacher showed the student a sequence of steps in the design of a business card, but as the student then omitted one step, he became caught in a cycle which he kept repeating to no avail. The support student was not present. The teacher noticed his cues (wiping the forehead, patting the hair) and offered assistance. The teacher then repeated the sequence, instructed the student to repeat it twice while he watched, praised the student, then left him alone. The student was able to repeat the sequence confidently until the card was completed. The teacher later remarked that the student would probably have forgotten the procedure by the next lesson. When introducing the business card exercise to the student, the teacher explained what a business card was, showed the student an example done by another student, suggested he create one for himself as an artist, and offered a basic design suggestion. Because the student was able to form definite task objectives promptly from the suggestions made, he worked steadily on the exercise for the remainder of the lesson with little interruption.

TERTIARY PREPARATION COURSE

The female support student mentioned above was the only sample student enrolled in this course. She had had prior clerical work experience and hoped to gain tertiary entrance through the course. She also had a brother studying at university which may have influenced her choice of direction and level of self-expectation. As her performance in the set maths subject was below required standards, she had changed to a lower level maths subject, but as this proved too difficult, she discontinued the maths and remained in Language and Learning and the Communications subjects discussed earlier.

The Language and Learning teacher commented that she had modified her teaching strategies to better accommodate the student by:

- slowing presentation of material
- doing more blackboard work
- modifying work presented to the student's level where possible
- speaking directly to the student to gauge her reaction
- making fewer assumptions than in a parallel class
- not expecting the intuitive leaps she expected from the parallel class.

Early in the course, the student had relied on the teacher for explanations of class work, but another student had offered this assistance which she had accepted. The student was also supported on a one-to-one basis by three staff members. Two were English teachers whose assistance focused on:

- improving comprehension and interpretation of reading passages by having the student explain the meaning she gathered overall, and from particular words
- improving written expression by attending to sentence structure, paragraphing, punctuation, grammar, self-correction and editing.

The third support was from a Resource Centre staff member and focused on assignment preparation. Elements covered included:

- interpretation of assignment questions
- structuring essays
- research techniques
- improving written expression of responses.

One session observed focused on the study of the tone, purpose and audience of two pieces of writing, in preparation for an examination. The student gave numerous incorrect responses to questions posed by the teacher, thus the teacher re-phrased and re-interpreted the questions so that the student could form the necessary associations from the written piece. The exercise appeared to be beyond the student's powers of comprehension, and although it dealt with a different level of information processing, it closely reflected the reactions of the student in hairdressing.

Superficially, the student presents as highly organized and efficient. She is active and successful in College networking and advocacy programmes, keeps class information well-ordered and accessible, and has efficient communication skills, i.e., telephone, letters. However, her conceptualizing and analytical skills fall below her "reality-based" skills. Teachers and counsellors attempted to reduce the student's self-expectations, and although she was reluctant to do so, had enrolled in the pre-vocational Business Studies area for 1992.

ONE-TO-ONE SUPPORT

Other students received support from teachers, usually once each week. The female student who withdrew from Business Studies had basic literacy support in the form of:

- reading practice
- spelling
- writing in various genres, e.g., letters, resumes.

Her comprehension level and retention rates were low so progress was slow. Also, as she was distractible, and strongly influenced by emotional factors, she required regular re-focusing during lessons and her performance level varied from session to session.

A young male student enrolled in Basic Computing and the Communications subjects received support in word processing. The teacher began by adhering to a formal computer instruction programme but the emphasis had shifted to creative writing. The student could then improve his written expression, spelling and punctuation, and his knowledge of basic computer functions simultaneously. His ambition was to be a sports reporter so several lessons were devoted to writing reports of games seen on television. He also worked on assignments from other subjects wherein the teacher could provide appropriate assistance. Unlike many students in the sample group, the student had an impressive vocabulary and was confident in his communication and social skills, despite his present immaturity.

In the Computing class his progress was slow, but the teacher was confident that he would achieve on a long term basis. As in her other computing classes, i.e., Business Studies, the teacher used strategies of individualized attention and pairing of students. One female regular student of higher ability had volunteered early in the course to act as an assistant for the integrated student and they always sat together. He would make a comment such as, "I'm stuck on this … How do I get on to … ?" to which she would answer, "You'll have to … then …" Work was again self-paced. The student had fluctuating retention in that he could not remember his address in one instance, but over some weeks, he had mastered the steps in basic computer use. The teacher provided him with a simplified assessment project but he requested that he follow the format given to other students. Appendix 8 contains an example of the simpler level of work formats. Again the teacher used question and answer and prompt strategies, which encouraged the student to think analytically. She felt doubtful that the student would master more complex programmes, but felt he would be competent on a basic level.

The female student who was enrolled in Hospitality and Art, and who was member of the HARD group, received literacy support from a volunteer tutor through the Learning Centre. As mentioned, the student was very distractible, and had low levels of comprehension and conceptualization. Initially, tuition had concentrated on reading time, but the focus had shifted to improving reading, comprehension of reading passages, creative writing and spelling. Progress was slow, but the student's concentration span had improved as had her handwriting. The student was also assisted in assignment preparation by HARD support staff, but as formal literacy training had not been undertaken, this often involved an indication to the student of appropriate passages to transcribe.

TECHNICAL LITERACY OFFICER

Assistance provided by the Technical Literacy Officer focuses on the literacy component of the various trade or technical courses. Some students attend these one-to-one sessions with the Officer on a regular basis, e.g., the construction student for two sessions each week, thus various strategies can be used for reinforcement. However, for students who attend erratically, the focus is usually on completion of assessment projects.

Material from class forms the basis of reading and comprehension exercises in the sessions. To assist in the latter, the Officer will read the material to the student and ask for the student's interpretation of that material. For example, "Can you tell me what you think this means?" If the student does not comprehend, the Officer provides an interpretation by simplifying complex sentence structures and explaining the meaning of terminology. "This is saying that before you pour the concrete, you are going to have to make sure you ... ". Also, where possible, the Officer will encourage the student to relate the information to the reality of the work site, by suggesting applications of a technique or operation. "Can you remember doing that at the site before the concrete was poured?"

Reading flashcards of regularly-used terminology and practising their spelling, reinforces the student's knowledge of essential terms. This is again reinforced when the Officer assists the student to complete assignments featuring cloze exercises, crosswords or short answer formats. Students are encouraged to do creative writing exercises based on activities in practical work, to further their use of written terminology and to improve written expression.

For written assignments, e.g., the construction assignment in Appendix 4C, the Officer and student will discuss and interpret the question being asked, and build a structure within which the question can be answered. This usually requires segmenting the overall question and introducing headings and sub-headings. The Officer will then accompany the student to the Resource Centre to collect relevant texts, and help the student read through the text material or read it to them. Passages read are discussed and interpreted until the student is able to provide his/her own response to the assignment question. This may then be scribed by the Officer for the student to re-write later, or written by the student assisted by the Officer.

Progress may often be slow, if an inherent negative reaction to printed material must be overcome, but because the student produces his/her own work, and increases their familiarity with terminology, self-esteem and confidence invariably rise.

DISABILITY OFFICER

The Disability Officer is available to provide literacy support to students with intellectual disabilities, but in many cases the focus is on "life skills" which are literacy-related. It is envisaged that in 1992, the Disability Officer will conduct small classes in life skills development. Issues treated in these classes would be needs-based at the discretion of students and the Disability Officer.

Skills that the class might focus on are:- use of the telephone and telephone directory to

(a) access the information required

(b) develop an appropriate telephone manner

(c) develop competency in taking telephone messages

- use of public transport and familiarity with timetables and destination names
- encouragement of independence and self-reliance
- assertiveness training
- building self-esteem and self-confidence
- developing and using advocacy skills.

The Disability Officer encourages students to organize regular class outings to which both integrated and other students are invited. These situations provide the opportunity for students to use the skills developed in class, e.g., ordering food, making purchases. One example that occurred during the observation period was a group outing to a local ten pin bowling alley, organized by the female student in the Tertiary Preparation Course. Students were encouraged to hire their own equipment, i.e., bowling ball and shoes, and to purchase their own food when they chose to eat. It was also an exercise in building self-esteem as several of the students proved to be very proficient bowlers. Unfortunately, only two students from the regular student group attended, but the scheme is still new and future outings may prove more attractive to regular students.

One of the young male Hospitality students with low literacy ability was supported by the Disability Officer in an examination situation, under modified assessment conditions. As the student was unable to follow a set of written instructions, the student and the Disability Officer set out the procedure in diagrammatic sequential form. The task was to roast a chicken with potatoes and accompany it with boiled carrots and beans and a lemon sauce.

The format was constructed through continual questioning and prompting of the student as to the tasks involved and their sequence; also the student's visualization of the kitchen and his presence there. After completing the diagrams and checking through them several times, a "dry run" was attempted. The student was again encouraged constantly to think about the sequence of tasks and to use the diagrammatic format. Technical details such as handling hot trays and lighting gas jets were focused on particularly. Due to a heightened stress level, a drop in confidence and insufficient practice sessions, the student did not act as independently as the Disability Officer had hoped he would, but the student was very satisfied that he had undertaken the examination.

In a one-to-one session on telephone use with the same student, strategies such as constant questioning, and prompting the student to consider the tasks involved and their sequence, were repeated. Questions included, "What will you need to look up if you want a golf club in the Redlands area?" and "What questions will you have to ask when the person says hello?" The student used the telephone several times to collect the information he required.

The Disability Officer also works to develop the skills that individual students possess. The female student with good organizational skills is encouraged to organize group outings and to develop her networking skills on campus to facilitate the integration programme. Another student has been encouraged to develop her interest and skills in advocacy and to increase Campus awareness of these issues.

ADULT LITERACY CLASSES

These classes of eight to ten students address various levels of literacy needs from survival literacy skills through to an advanced level of reading and written expression. Those who present with limited reading and writing abilities and who make limited progress over a long period of time, often report that they attended Special Schools.

Classes follow a format which may vary but generally includes reading, writing and word study activities. Students with a short concentration span, high level of distractibility and low frustration level respond better to tasks which are not protracted. Reading activities are preceded by a pre-reading discussion of what content and words might be expected in the passage. This increases the students' confidence in approaching the reading task. Students read the passage silently then aloud, in turn, with other students or the teacher supplying unknown or difficult words. Follow-up discussion draws on the students' interpretations of the passage, and analysis of particular words. Class discussion again provides the basis for writing exercises which may be creative or directed along specific lines e.g., a personal letter. As many students find it difficult to spontaneously generate ideas and suggestions, the teacher asks open-ended questions to focus students' thoughts:

- "Have you ever thought what it would be like to win the Lotto?"
- "What would you do with so much money?"
- "What do you think about daylight saving? Do you like it? Tell us why."

Students can then call on other suggestions besides their own to frame a response. For tasks that require instructions and a set of responses, e.g., cloze exercise or multiple choice, students may need to have the instructions repeated, rephrased or interpreted before making a response. To reinforce the pattern of response, the teacher may complete the first one with the class. If a student remains doubtful, due to a limited ability to respond to verbal instruction, individualized attention is given to repeat or rephrase the instruction and example, and provide assistance with unknown words. Students respond well to tasks that involve few and simple responses over a repeated pattern, rather than a mix of different responses in the one activity.

Pairing or grouping of students may be used as a teaching strategy. However, if all students are of similar ability levels, the assistance to each other will be limited. In order to provide the student with the satisfaction of completing a task, and the opportunity to self-correct, immediate feedback on responses is important. This may lead also to discussions which extend the parameters of the exercise at hand, e.g., word families, homophones.

SPECIAL SCHOOLS INTEGRATION PROJECT

The Special Schools Integration Project ran from July to November 1991 and exposed twelve students (six female, six male) to the subject areas of Hospitality, Basic Computing, Horticulture, Physical Fitness, Personal Presentation and Carpentry over a two day per week timetable.

In the first half of the period, six students worked in the kitchen and six in the restaurant. They then rotated for the second half of the period. Also, all students did Carpentry in the first half and Personal Presentation in the second, except for four students (two female, two male) who opted to continue in Carpentry. The Disability Officer sees the project as a "familiarization period in which the Special School students learn to be College students, and increase their confidence should they choose to enrol at College at a later date."

Several ex-Special School students already attending College have commented on the advantages of the project and their regret in having missed the opportunity. Some students in the project have enrolled at College for 1992. Students were accompanied in class by a Special Education Support Teacher from one of the schools, a teaching assistant, and sometimes the Disability Officer, all of whom provided individualized attention to students when necessary. The teachers involved in the project were highly committed and caring in their attitudes and approaches.

Common strategies used were:

- routine : structuring lessons in a similar pattern each week
- repetition : students re-use learned tasks and build on these to increase capabilities and confidence
- task-orientation : rather than theory.

The literacy elements of reading, writing and numeracy were minimized, with emphasis placed on listening, comprehending and responding to instruction. Kitchen procedure involved a short list of ingredients and quantities written up on the whiteboard by the teacher, followed by a demonstration of how to make the particular item. Students worked in pairs to produce numerous samples each.

Incidental learning included:

- familiarization with kitchen procedure
- identification and use of utensils e.g., balance scales,
- working cohesively in a group

- following a set of instructions in logical order
- numeracy in dealing with weights and measures.

The teacher commented that the need for re-instruction, repetition and individualized attention had decreased progressively, provided tasks remained simple. Also, College kitchen lessons acted as extension work in that students had cooking lessons at school.

Service lessons featured a short discussion period which focused on a simplified handout, or blackboard work, related to subsequent tasks, e.g., table setting, folding serviettes, waiting at table, simple bar work. Appendix 9 contains a handout which lists terms and concepts frequently used in table service. Students were unaware of the meanings of most of the words listed so the discussion centred on explanations of their meaning by the teacher and the importance of the concepts. In subsequent lessons the teacher modified the language she used to convey concepts and also used more diagrammatic representations of concepts on the blackboard.

Incidental learning in the service area included:

- appropriate behaviour in the restaurant
- table etiquette
- hygiene
- identification and use of utensils
- service procedure

Over time, the students required less re-instruction and individualized attention, but like the integrated students in the Hospitality course, were often unable to anticipate a subsequent task without some instruction or prompt. A communal morning tea session reinforced the aspects of table etiquette and appropriate behavior in a social setting.

Horticulture lessons were also task-oriented, routine and repetitive, based on step-by-step demonstration by the teacher. Students learned about leaf propagation, soil-mixing, composting, pruning and gardening. Incidental literacy occurred in:

- plant identification and labelling
- measuring quantities of soil types.

Students were required to copy plant names from the whiteboard on to identification sticks and place them in the appropriate pot. In mixing soil, they were required to count shovel loads and measure quantities of the different soils needed by container measure.

Computing lessons aimed to familiarize students with computer components, keyboard use, setting up files and use of spread sheets. Students with higher literacy skills required less individualized attention and were able to implement simple formulae involved in spread sheet work independently. As basic procedures were repeated initially each lesson, most students were able to work independently to a certain level, then received individualized assistance to establish further procedures.

Personal presentation sessions were less structured, and focused on discussion of personal needs and how to address these, e.g., skin and hair care, shaving for boys. One regular task was to wash and dry each other's hair. The teacher also aimed to improve the students' self-images, and build self- esteem and confidence.

The four students who opted to continue Carpentry worked on a project which familiarized them with workshop procedure, and the identification and use of tools. Based on a plan which introduced perspective and numeracy components, the teacher used small-step instruction and demonstration strategies, reinforced by individualized attention, to assist students to make a small item of furniture.

A discussion session conducted each week by the Disability Officer focused on issues such as:

- feedback to and from students on their participation in the various classes
- appropriate attitudes and behaviour in the College milieu
- encouragement of independence and responsibility for one's actions
- the building of self-esteem and self-confidence.

RESOURCE CENTRE

Resources available to students through the Resource Centre, and assistance from staff, also form part of the literacy support integrated students can access. Staff are committed to encouraging integrated students to learn and use the skills required to access their own information. When a student presents with an assignment topic and requests assistance, staff will discuss the topic requirements with the student, and either assist in the use of the computerized catalogue, or locate the material and peruse it with the student until a selection is made.

The female student in Hospitality and Art prefers to use a larger print format and requires more assistance to choose appropriate materials than the student who has become familiar with shelf locations and the photocopier. Students are also instructed on the use of equipment such as video and compact disc players. During the orientation period of the academic year, staff conduct workshops on basic computer use and particularly the use of the computerized catalogue.

The Resource Centre provides work experience for two mornings per week to an integrated student on temporary leave from his course. His regular task is to record books at the circulation desk as "returned". This involves a sequence of well-defined steps including:

- the use of a light pen to scan bar codes
- reading the response on a screen
- checking for any special categories
- the placement of the item in its appropriate place.

The student also sorts and re-shelves the alphabetized fiction holdings when it is required.

SUMMARY

The teaching strategies used in teaching students with intellectual disabilities were repeated across subject areas. They can be examined in two contexts - *task-oriented situations* and *literacy-based situations*.

In both situations students often displayed characteristics such as:

- poor retention, both short and long term
- poor comprehension
- short concentration span
- distractibility
- an inability to conceive or anticipate a further response.

In task-oriented situations, strategies used can be described as follows:

Students were directed towards single or simple tasks. Teachers assessed the student's capabilities and assigned them tasks appropriate to their ability level, e.g., the student in the Automotive course who checked oil levels and the student in the Hospitality course who was responsible for placing a particular vegetable on each plate. Students who were "overloaded" with tasks usually experienced failure and frustration, like the student in Business Studies who could not perform overlapping tasks in Office Practices sessions.

If more complex, the tasks had to be structured in a short logical sequence. The student who worked in the Resource Centre successfully performed a sequence of tasks that were structured this way, whereas in Hospitality service, students had a less structured routine to follow involving numerous tasks, thus confusion often arose.

Tasks were clearly defined and explained. If this was not done, students experienced confusion and failure as they usually lacked the intuitive thought processes that a regular student would use to analyse a problem. One exception was the student in the Construction course who was able to formulate a solution to the task he was set at the building site.

Demonstration was used, i.e., students benefited most if the task was demonstrated and they then performed the task under supervision once or twice to establish the routine of required responses. This also reinforced the sequence of movements that was necessary. This strategy was used frequently in the practical elements of subjects and was used more frequently for the students with intellectual disabilities to ensure mastery of the task. If the teacher was unavailable to demonstrate a task response another student was often assigned to do so.

To deal with poor retention, teachers used repetition of verbal responses and re-instruction by demonstration. Again these strategies were frequently used in all practical areas in dealing with students with an intellectual disability. Also another student of higher ability was often assigned to the task of re-instructing in the teacher's stead.

Re-focusing was used to counteract distractibility and short concentration span. If a student's attention wavered from the task in hand, the teacher would usually ask the student how they were progressing with the task or whether they needed assistance in order to re-establish the appropriate task response pattern. Different teachers use a variety of remarks and questions for this strategy, some less sensitive than others. The tone of remarks may affect a student's level of performance in the situation if their level of confidence is not high.

Alternatively, the teacher might ask another student, usually a regular student of higher ability, to work with the student and monitor their progress in order to keep them focused. This student support would provide a model for appropriate task responses, explanations and instructions where necessary and answers to questions the student might ask.

Where a student could not anticipate further tasks, regular supervision was necessary and the use of prompts or questioning about what further actions were required. Where possible, teachers encouraged students to assess a situation and formulate their own solution by answering questions posed by the teacher. For example, "Now that you have finished ... can you think what you will need to do next?" This strategy was used frequently in Computing classes and all task-oriented situations. Teachers used this as a more effective learning strategy for students than carrying out a task at the direction of another person.

Supervision included individualized attention by the teacher or pairing with a student of higher ability. The main purpose was to monitor the student's task responses and provide corrections to inappropriate responses when necessary or as just discussed, to encourage the student to formulate their own solution to problems. The latter was not a feature of peer supervision. Instead, this would usually involve directions as to what the student was required to do next e.g., "Now you have to ... "

In literacy-based situations, additional strategies were necessary:

Pre-reading discussion was effective in establishing context and outlining content and words that might be expected. This also acted to increase a student's confidence in attempting new material. This strategy was not used in many theory lessons apart from Hairdressing, Hospitality service and Adult Literacy, but would be of particular benefit to those students with intellectual disabilities whose life experience and reading ability were at a lower level than other students.

Materials that used simple language were the most effective in conveying meaning. However, as can be seen in the Appendices, text material in most areas was complex and "wordy". Most students required assistance from the teacher or support person to interpret and rephrase the information into simpler form before the student could grasp the concepts involved. Much time and effort could be saved if students were presented with simplified text material in the first place.

Students also responded well to material that was segmented and featured headings and sub-headings. Very often the students' support person spent time segmenting the assignment topic or text information with, or for, the student before any information transfer could be attempted.

Text material that featured diagrammatic representations of concepts accompanied by a description in simple language appeared to be the most effective method of information transfer for students. This approach was used frequently in Automotive handbooks but less so in other areas.

Relating the content of printed material to reality-based examples was also effective in conveying meaning. Due to the practical aspect of many subjects, this was done by most teachers where it was relevant.

Self-paced units of work meant that students could progress at an individual pace rather than adhering to class requirements. When time limits do not prevail, a slower student's self-confidence and self-esteem will remain higher than if they are faced with constant pressure and competition. This system is also valuable when modifying course requirements and levels of achievement for slower students in that they need not attempt units of work that are inappropriate to their level of ability.

Where responses were required, clear explanation and instruction were necessary, followed by an example completed by the student to establish the appropriate pattern of response. This strategy was commonly used in computing classes, one-to-one support situations and Literacy classes.

Students responded more positively to the repetition of one response pattern than to a variety of responses in the one exercise. For some students with intellectual disabilities, changing a pattern of response can be a difficult process, thus material which features a variety of responses in rapid succession will be more confusing, and less effective in a learning sense, than that requiring a single response pattern. Where a student is to have a modified assessment format, this is an important consideration if a student's performance is to be optimized.

Using a variety of short exercises was effective in counteracting a student's distractibility and short concentration span. Theory lessons which centred on the teacher reading from a text or dictating passages were less effective for all students than those which featured a variety of tasks such as in Improving Reading and Writing and Adult Literacy classes.

To overcome poor retention, regular repetition of similar exercises provided reinforcement of the pattern of appropriate responses, e.g., form filling, basic computer use in the Special Schools Project. Alternatively, the student created a procedure manual in their own terms for use in a particular situation, e.g., computing.

When progression from simple to complex exercises was necessary, small step progression was most effective. This strategy was used particularly in Computing classes, Technical Drawing and Autographics and was advantageous for students with limited conceptual ability.

Pairing of students was effective if one student was of higher ability. This student could then provide an explanation or interpretation of instructions or material, answers to the second student's questions and recommend what further actions the second student needed to carry out. However, teachers need to be aware of which students are willing to undertake such a role. Many regular students prefer not to be placed in this position and can create a negative rather than a positive learning situation.

Individualized attention from the teacher was the most beneficial strategy to keep a student focused and to provide explanation and interpretation. Most teachers used this strategy whenever possible but in a class situation opportunities to do so are limited by class size. Some teachers remarked that class situations would be more effective if the number of regular students in a class was reduced to offset the introduction of students with an intellectual disability into the class, particularly with regard to safety aspects.

Assignment format that required simple responses and direct retrieval of material from texts was easier for students to work with than a format that required an interpretation of text. The response booklets used in Automotive, Construction and Hairdressing provide examples of this format, whereas the assignment sheet in Appendix 4C required prolonged assistance from a support person.

Assignment questions that were segmented or featured a definite structure e.g., Appendix 3A, were easier for students to work with than those with a general or non-directive structure, as in Appendix 4C. Where the latter occurred, it was necessary to assist the student to form a definite structure within which to work.

The most effective strategy in assignment preparation was to assist the student to form an interpretation of text material read by the student or read to him/her, and to use this interpretation to form the assignment response. This was the method used by the Technical Literacy Officer and other one-to-one support persons trained in literacy techniques.

CONCLUSION

Redland Community College is in the vanguard of the movement to integrate students with intellectual disabilities into TAFE (Technical And Further Education) courses. However, as the participation rate of these students in College courses increases, certain issues that may have been overlooked to date need to be addressed.

A clarification of goals appropriate to the integrated student should be negotiated by the student, his/her supporters and College personnel, with regard to the student's ability levels and interests. Contingent upon this is the enrolment of the student in a course appropriate to those abilities and interests.

Linked to this initial setting of student goals is the need for College personnel, particularly teachers, to assess teaching goals with respect to students with intellectual disabilities. The essential question would appear to be: Should the teacher of an integrated student adhere to the overriding TAFE objective of education for employment and thus prescribed course content, which in most cases proved to be inconsistent with a student's ability, or should the teacher focus upon the student's ability level and negotiate appropriate individual goals with the student which would entail modified course content and modified assessment format? Some teachers have pursued the latter course of action with the result that the student not only achieves academically but also experiences an increase in self-confidence and self-esteem. A third alternative that has been suggested is to create courses based solely on the needs and abilities of a group of integrated students, using appropriate course content and materials. However, if normalization/social role valorization policy is to be effected, this segregation of integrated students from regular students would be anachronistic.

Some comment also can be made about the level of interaction that exists between students with intellectual disabilities and those in the general student body. As in many situations affected by legislation, policy objectives may not be reflected in the social reality of those situations. There is still, in general, a social divide between the two groups of students, both in the larger College milieu and in the classroom. Few examples of voluntary peer assistance were observed in the classroom and similarly with social interaction. Where these did occur, it usually involved those sample students who had a higher level of social and communication skills, e.g., the female student in the Tertiary Preparation Course who also carried out networking and organizational activities, and the young male student in Computing who had fluent language skills. There were also examples of intolerance and prejudice against integrated students which the students found very difficult to deal with and very distressing. Consequently, the integrated students tended to maintain their identity as a group and rely upon one another for social support.

Apart from the lengthy period of adjustment that is required to improve social situations like this, certain circumstances already exist to facilitate increased social interaction between the two groups. Social activities organized by the integrated students and the Disability Officer provide regular students with the opportunity to interact and hopefully more will use that opportunity in the future. Also, the Life Skills classes that the Disability Officer conducts will be available to all students who are in need of education for self-sufficiency and independence. The subject areas of Life After College and Human Relationships are very successful in providing the opportunity for students to interact and gain insight into other students' life experiences.

Teachers' use of peer assistance, as a teaching strategy and in the Care group situation, brings students from both groups together and facilitates their interaction. The continuation of networking and advocacy activities by the integrated students will also act to educate the larger student body as to the rights and status of integrated students.

ASSESSMENT OF LITERACY SKILLS USING FACILITATED COMMUNICATION

TONY ATTWOOD

AND

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INTRODUCTION

The UNESCO definition of literacy states that:

> a person is literate when he (sic) has acquired the essential knowledge and skills which enable him to engage in all those activities in which literacy is required for effective functioning in his group and community and whose attainment in reading, writing and arithmetic make it possible for him to continue to use these skills towards his own and the community's "development". (Kozol, 1985)

For many people with developmental and acquired disabilities, this definition of literacy not only highlights the prestige with which literacy is associated, but also the limitations that may result when attainment of literacy cannot be readily demonstrated. Clearly, there is a need to differentiate between "performance" (how the person demonstrates his/her abilities) and "competence" (what the person understands about the language code). For example, the hyperlexic person may be able to read and sometimes write words with surprising sophistication but is unable to write or type the words in meaningful discourse to initiate or interact appropriately. Nelson (1992) considers the goal of intervention when working with people who have little or no spoken language, to be the development of competent, literate and mature communicators who can perform a variety of communication tasks with multiple partners in varied contexts. Parallels are seen with the UNESCO definition of literacy.

Within the early intervention programs for children with acquired and developmental disabilities there is often considerable focus on metalinguistics and language enrichment. Further, language enhancement is encouraged through story telling and exposure to pictures - which are often incidentally accompanied by written words. However, whilst language and literacy competence may be developing, if the individuals have no way of demonstrating this by reading aloud, abilities may not be recognised and levels of expectation for the people may diminish. In simple terms, if the people cannot say or point independently to written words it is assumed that they cannot read.

Whilst the person with a diagnosis of intellectual and/or physical disability may not have received intervention in the areas of literacy development this does not mean that literacy competence cannot be achieved. There are sufficient reports in the literature to suggest that literacy, like language, can be "caught not taught" (Clark, 1976; Doake, 1988; Goody, 1982; Heath, 1986; Holdaway, 1979). Further, base-level deficits need not necessarily inhibit reading development providing higher level processes can compensate (Smith, 1992). But how can people learn to read without specific reading instruction? The answer is unclear. However, in our society today we have an increasing amount of print exposure through the electronic and print media. Unlike speech, print exposure is relatively static and provides opportunity to observe and review the material. Often, this incidental exposure to print is highly repetitive, as in advertising. Therefore, assessments for literacy competence should consider the vocabulary and contexts in which the words are learnt. Traditional models based on the learning styles of non-disabled, speaking individuals in classroom settings may not be appropriate for persons with little or no spoken language as shown in the case studies described later in this article.

TRADITIONAL METHODS OF ASSESSING LITERACY

There is a danger when assessing the literacy skills of people who perform poorly on standardised tests of intelligence if we assume that "normal" or traditional language and literacy acquisition models apply. If we make this unsubstantiated assumption we are likely to try to fit "round-pegs into square holes". A conventional approach to the assessment of literacy with those who are disabled may fail to accurately assess competences and performance. Crystal (1989) reports on research which showed that children between the ages of 17 months and 14 years 10 months can utter between 13,800 and 22,900 words respectively in a twelve hour period. The scope for phonemic, lexical and semantic rehearsal and experimentation is enormous and completely unrivalled by the speech impaired, intellectually disabled population. Gerber and Kraat (1992) report that the difference in language acquisition styles of this population may be so different from traditional language acquisition models as to render developmental model of assessment meaningless for this population. Further, these discrepancies impact on the way communication partners interact with the disabled person and consequently the way discourse exchange structures are promoted and reinforced. Conventional conversations comprise the exchange structures of Question (Elicitation) followed by Response and Feedback. Investigations have shown that when speaking people converse with speech impaired people distorted exchange structures are seen (Calculator 1985, Sinclair & Coulthart, 1975) and redundancy of language occurs (Snow, 1976). For example:

Teacher: "John, do you want to go to the toilet?"

John: (No differentiated response)

Teacher: "John - go to the toilet"

John: (No differentiated response)

Teacher: "John, go toilet now"

(Questions become modified to directives and language structure becomes simplified in response to the students lack of responding).

The attitudes, motivation and expectations of the assessor may strongly influence the outcomes of literacy assessment for people with disabilities. Sabsay and Platt (1985) draw attention to the domains in which assessments take place and suggest the settings in which language competence is evaluated continue to be for the most part relatively unnatural ones and the range of skills investigated limited. In addition, failure or inconsistency in responses may be due to fear of failure, previous negative experiences of testing and/or an undiagnosed language disorder. Therefore, the examiner should be aware of these issues and have had supervised instruction in alternative methods of assessment appropriate to this population. In this paper we examine the use of Facilitated Communication (FC), a relatively new technique that addresses difficulties people may have planning and making movement patterns. Facilitated Communication is a potentially promising approach to determine an individual's language and literacy abilities, in the absence of speech, because it addresses known motility problems in the disabled population. For example, perseveration, impulsivity, lack of initiation, poor motor control and co-ordination (De Myer, 1976; Hagberg, Aicardi, Dias & Ramos, 1983; Jones & Prior, 1985). However, it is not as simple a technique as it initially appears and cannot be developed as a skill by using the "Teach Yourself ____" approach.

DEVELOPMENT OF FACILITATED COMMUNICATION TRAINING

One of the earliest references to Facilitated Communication appears in 1977 in Rosalind Oppenheim's book "Effective Teaching Methods for Autistic Children". She describes the beneficial effects of touching the students hand or arm and how the quality of written communication deteriorated appreciably when a touch to the person's writing hand was removed. In the early 1980's, Rosemary Crossley, an educator in Melbourne, Australia, found that one of her students at an institution for people with an intellectual disability was able to spell words on an alphabet board when physical assistance was provided. This "assistance" involved supporting the arm, restraining extraneous movements and providing feedback and verbal interaction at a chronologically age-appropriate level.

Crossley was later awarded the Australian Medal for her services to disabled people and in 1986 founded the Dignity, Education, and Language Communication Centre (DEAL), a government funded communication centre for people with severe communication problems. Use of her "assisted communication method" was applied to other disability groups, such as people with acquired brain injury, Down Syndrome, autism, and other developmental disabilities. Over several years, the method was refined and became known as Facilitated Communication. It has been used with people who were referred because of severe communication impairment and limited ability to use their hands for manual signing. In 1988, a group of professionals in the area of disability expressed their concern regarding whether the communication came from the facilitator or the student (Community Services Victoria, 1988), and their concerns were investigated by the Intellectual Disability Review Panel (Community Services Victoria, 1989). The investigation was based on a small sample of Facilitated Communication users and involved a series of controlled tests. The results of these tests were inconclusive in that "some communications were valid and reliable through 'assisted communication' without influence by the assistant. On the other hand some communications were influenced by assistants." (p. 41). However, Facilitated Communication continued to be used in Melbourne within an environment of academic and professional scepticism and criticism (Cantonese, 1988; Cummins & Prior, in press; Hudson, Melita & Arnold, 1992). However, interest from professionals overseas was considerable. By 1991 the DEAL Communication Centre, which had pioneered Facilitated Communication, had been instrumental in the development of Facilitated Communication programs in the USA, Canada, Germany, India and New Zealand. Dissemination of information and documentation of case studies was, until 1992, largely without funding in Australia. Controversy regarding the communications being those of the partner rather than those of the student prevail even today. For this reason, validation of the technique, i.e., ensuring the response is that of the student not the partner, is at the forefront of discussions about Facilitated Communication and is one of the key elements of training staff, student assessment and measuring progress.

KEY ELEMENTS OF FACILITATED COMMUNICATION

Facilitated Communication is:

> a method of training non-speaking people with physical disabilities to point to items such as objects, pictures, letters or words.
>
> (Remington-Gurney, 1992, p. 1)

For many people with disabilities, the nature and degree of their disability and/or their environmental circumstance will prevent independent pointing. They will be dependent on the physical support of a partner to slow and steady, (but not direct) their movements to items (Remington-Gurney, 1992). The training process includes gradually fading out the physical support, but it may take several years for complete independence to be achieved. It is proposed that whilst some people are able to isolate an index finger they are unable to use this motor pattern for pointing as a means of communication due to a neuromotor problem. The precise nature of this problem has yet to be defined but when asked to point to items without facilitation students often make gross, repetitive movements towards a target or fail to initiate a movement. If one makes the assumption that the student has acquired inner language (i.e. language competence) but has an inability to physically demonstrate language skills by motor response of speech and gesture (i.e. language performance) it is highly likely that the student will feel frustration leading to disruptive behaviour, withdrawal or depression. Facilitated Communication therefore addresses two key components:

1) neuromotor/sensory difficulties;
2) maintaining the student's confidence and success.

These components will impact on the students' performance to various degrees depending on the nature of the disability and previous learning experiences. People who are being trained as communication partners for a student who uses facilitation need to be aware of these components and how they are approached in the training process.

1) Neuromotor/sensory difficulties

Many people with a severe communication and intellectual disability have poor muscle bulk and strength in their fingers and shoulder girdle. This may arise if the person has had limited exposure and experience with manual activities i.e., using their hands and arms to climb playground equipment, throw and catch a ball, hold pencils/crayons to draw, play with clay, playdough etc. The effect of this on their ability to point to targets can be that their index finger crooks and they repeatedly locate an item below the target item. Lack of shoulder girdle strength can reduce endurance levels to just a few seconds. If energy is having to be diverted to the physical aspects of pointing, the person may lose concentration and have difficulty with sequential aspects of the task. If this problem is not identified, analysis of the person's communication could be misleading. For example, the following responses are due to attempting to touch the target letter or number on a keyboard, but having a crooked finger.

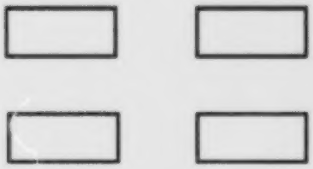
Q W E R T^{7} Y^{8} U^{9} I O P
A S D F G^{4} H^{5} J^{6} K L !?
Z X^{0} C^{1} V^{2} B^{3} N M ,.

				Typed Response	Typed Numbers
Mathematics Questions	3 + 3	=	Response:	zkz	3
	2 + 8	=	Response:	gdn	10
	4 x 10	=	Response:	xlfgh	10

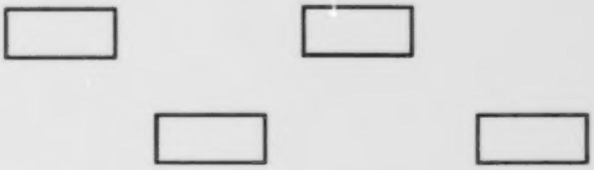
Another example of neuromotor difficulties occurred when a student was asked to describe the events in a picture i.e.:

Facilitator:	"Tell me what happened" (smashed juice bottle)
Student:	glazzbrokenjuice

In the above response one could accept a novel spelling occurred for the word "glass". However, the "z" is directly under the "s" key on a QUERTY alphabet display. Thus error analysis is an essential element of Facilitated Communication so that motor co-ordination problems can be identified. The partner needs a training program on how to recognise motor co-ordination problems and institute appropriate remedial activities. It is also advisable to involve the skills and expertise of a physiotherapist and/or occupational therapist, particularly where sensory and motor deficits are suspected. Similarly, using the following configuration for flashcards may lead to misleading responses if the student attempts to point in the right direction but consistently locates the flashcard below the target.



A staggered presentation of the flashcards may reduce the likelihood of this happening.



Also, offering sensory stimulation to the finger and hands prior to the interaction, providing a verbal prompt "point your finger", or providing a finger splint can increase the accuracy of the responses.

2) Maintaining the Students' Confidence and Success

The person being trained to use facilitation with a student is referred to as a communication partner. It is essential that the partner become skilled in phrasing questions which offer the student the best opportunities of responding and using facilitation. At a conversational level, it is suggested that students may not always have the skills to communicate spontaneously. After many years of little or no opportunity to practice expression, the processing and sequencing of items for communication may be slow. Open questions such as, "What did you do this morning" may present as considerably more difficult than, "Did you go swimming or shopping?" or "Did you go to the park?". A hierarchy of conversational approaches is recommended as shown in Figure 1 which illustrates the Conversation Levels. As partner and student develop communication skills and rapport, there is less use of levels 1-3 and a more "natural" conversation structure occurs.

"Is there anything you would like to say?"	4	Open conversation where the partner is unaware of the potential content
"What did you eat at McDonald's last night?"	3	Choice making/replies where partner knows the context
"Did you have a hot or cold drink?"	2	Choice making where partner knows the most likely answer.
"Your mum tells me you had a coke - let's spell coke"	1	Word matching, copy typing, labelling

Figure 1 Conversation "Levels"

Praise and encouragement are strongly advocated throughout Facilitated Communication interactions. The student may have developed a considerable fear of failure particularly in test situations which continue until the person fails. Partners are recommended to encourage students, i.e. "keep pointing - that's fine", "yes - have another try etc." and to avoid comments such as "No - that's wrong", "that doesn't make sense" and from being silent or offering minimal feedback to the student.

3) Validation

This is a fundamental element in the Facilitated Communication Training process, because as long as there is physical contact between two people during Facilitated Communication there will always be doubt as to who is communicating - the student or the partner?. Therefore it is essential to develop a means of establishing who is the author. The communication can be considered "valid" (originating from the student and not the partner), if the partner has no prior knowledge of the appropriate answer or was not anticipating the answer (i.e., content validity). Alternatively, when information is conveyed and replicated with a number of communication partners as being idiosyncratic to the user, there is evidence of structural validity (Remington-Gurney, 1992).

Validation by Content

There are several forms of content validation, namely:

1. Spontaneous Comment: offered at Level 4 where the reply provides an opportunity to examine whether the communication is accurate, but was not known to the facilitator, i.e., the person providing the physical support.
2. Multiple Choice: Here the client is given a choice from several or just two options, one of which is accurate but again, the accurate response is unknown to the facilitator. This method can be used at Levels 1 to 3 using a question about past experiences. A yes/no board, flashcards or alphabet display may be used for the response.
3. Unanticipated Response: In these examples the clients' response is appropriate but was not "on the mind" of the facilitator, (i.e., not what the person was anticipating). This category also includes responses indicative of word finding problems.

Validation by Structure

This requires an analysis of spelling (phonetic, unique, precise), lexicon (use and other) and syntax to identify consistent structures within sessions and between facilitators. Examples of communication that illustrate content or structural validity are included in the later section.

An appropriate environment to examine "validation"

It is probable that the quality and quantity of communication will vary according to the environment in which interactions take place (Milroy, 1987). It is not recommended that formal validation in artificial "test" situations take place until:

a) a body of data pertinent to the students' neuromotor and linguistic abilities has been analysed (Remington-Gurney, 1992);

b) the student has received training in Facilitated Communication Training and is able to use the technique with at least two trained communication partners;

c) the student agrees to participate in a validation procedure, (eg., uses a yes/no display, or body language);

d) the student chooses the partner he/she feels most comfortable communicating with; and

e) the communication partner selected is adequately trained in the use of Facilitated Communication and provides physical or verbal prompting to rectify difficulties (i.e., "slow down", "straighten your finger").

ASSESSMENT USING FACILITATED COMMUNICATION

Assessment of Motor Skills

Many people with developmental and acquired disabilities have limited success with manual signing and literacy based programs. Motor skills for this population are sometimes poor and may be characterised by problems of perseveration, disinhibition, co-ordination and muscle tone (Crossley & Remington-Gurney, 1992). Facilitation uses physical and verbal support to help the subject compensate for such physical limitations. Facilitation aims to enable students to gain better control and co-ordination when pointing to items. Very often students are able to isolate an index finger, but when asked to point to an item they use a flat hand and may point repetitively to the same item (perseverate). The student may therefore appear to have difficulty isolating an index finger, pointing in a controlled manner to a named item, and pointing sequentially to named items. By supporting the student's hand, assisting with index finger isolation and pulling the student's hand away from the display between selections, the student's movements are refined but not directed. Holding the student's hand back away from the display while an instruction is given and between item selections may also help overcome problems of impulsivity where the student starts before a question has been completed. Facilitation can be used to develop pointing skills from a very early age (i.e., pointing to preferred toys, drinks) and may therefore have a use at a pre-literacy level. If students are able to develop better control of their limbs it is reasonable to assume that the degree of physical assistance can be slowly and steadily faded until the student is independent.

As previously mentioned, the earliest report of physically supported communication notes improvements in writing abilities of autistic clients when touch is applied to the writing hand (Oppenheim, 1977). Writing as a skill is not dismissed in Facilitated Communication training. However, word and picture boards and alphabet displays have advantages over hand written communication in terms of the motoric effort and co-ordination involved, the time taken to communicate a message and the quality of the output where print devices are used.

The assessment of motor skills for Facilitated Communication therefore examines a student's ability to:

a) tolerate touch; and

b) isolate an index finger with or without physical assistance.

Other aspects of evaluation include:

1. Hand/eye co-ordination (i.e., can the person locate small items in isolation and sequentially).
2. Visual field deficit (i.e., is the person more successful locating items or completing tasks if the material is positioned to the left, right or centrally to the person?).

3. Visual attention (i.e., can the person attend to tasks in the presence of auditory and/or visual distractions i.e. passing traffic, the examiner moving etc.?).
4. Posture (i.e., is the person more successful with tasks when well seated with feet flat on the floor and table at elbow height?).
5. Language comprehension (i.e., how well does the person respond to spoken, written and signed instructions?).

Pre-assessment requisites

1. The examiner should have training in Facilitated Communication and preferably have supervised practical experience from a trained facilitator. There are many ways of holding and physically supporting the student in order that the index finger be isolated and appropriate posture maintained.
2. Chronologically age-appropriate materials should be used.
3. To ensure correct positioning, seating equipment should be available and include an adjustable table, chairs without arms, a wedge to rest equipment on and a non-slip mat. This ensures that the student is unrestricted by seating, more comfortable and equipment is stationary.
4. Unobtrusive video recording is recommended but not essential.

Equipment

The photographs at the end of this report give examples of the types of commercially available materials which can be used to assess basic concepts such as colour, shape, words, letters, and numbers. This is not to imply that traditional, formal measures are not recommended. Rather, the student is provided with an assessment protocol in a naturalistic setting with novel material to maximise motivation and co-operation.

Assessment Procedures

In the course of training someone to be a facilitator for Facilitated Communication two things are constantly stressed:

1. to respond to the user with dignity;
2. not to assume that the user has an inability to understand normal conversational language.

Thus, facilitators are encouraged to engage in some behaviours and discouraged from engaging in others. Behaviours that are encouraged and discouraged are listed below.

Encouraged to	Discouraged from
• greet the student by name and refer to him/her by name	• talking around or over the student
• use age-appropriate conversation	• raising the voice, using simplified or "baby" language to the student
• comment positively on student's potential skills (e.g., "I bet you are a really clever person—come and try some of the games I have here)"	• preparing the student for a test (e.g., "let's see if you can point to these pictures")
• explain what the assessment procedure entails and what the outcomes may be (e.g., "There are lots of people just like you who can point to things better if someone holds their hand. Can we try that?")	• launching straight into test procedures without establishing a rapport or permission to invade the student's personal space
• respond to the physical needs of the student even if this means delaying the assessment whilst posture, seating and equipment positioning modifications are made	• assessing despite being aware that the student is not comfortable and/or needs are not being met (e.g., table too high, too many distractions around the room)
• praise and encourage (e.g., "that was very good—well done", "you are nearly there—keep trying")	• saying "no", "you're making no sense at all" or "you are not very good at this are you?"
• provide a spoken repetition of digitised speech where electronic speech output is used	• letting speech-output devices dominate the interaction
• provide a repetition of the instruction if the student fails to respond and encourage student	• repeating the instruction several times and cueing
• provide time for the student to plan and respond	• allowing the same amount of time for a response as is appropriate for spoken-interaction or interactions with non-disabled people
• keep the student up to date (feedback) on where they are in the task or assessment (e.g., "you've shown me four pictures—we have another six to do", "we've played the letters game—now we have the numbers game and word game to do—which one shall we do first?)" (The student has the option to choose)	• presenting test after test with no clear indication of purpose and conclusion
• interact with student as though he/she were perfectly competent	• making negative assumptions about the student
• fade the degree of facilitation only if response strongly indicate this	• focusing on independent access if fading support is resulting in increased errors
• responds to the physical positioning needs of the student rather than the observers or examiner.	• imposing the examiner's preferred seating arrangement on the student. Some students may be more able when standing.

Facilitated Communication has two components:

1) facilitation; and
2) communication.

Communication should be enjoyable to both parties and take place in a variety of settings and contexts. Whilst there will need to be an element of structure to the training program, the goals of training the student and the facilitator cannot be achieved solely in one-to-one, formal situations. Both parties need to be relaxed and enjoy the interaction. Facilitators are strongly encouraged to remember these points when planning communication training sessions.

THE QUEENSLAND FACILITATED COMMUNICATION PROJECT

The Facilitated Communication Project commenced in Brisbane in January 1992 for a period of 12 months and was designed to assess the viability of Facilitated Communication with a representative sample of clients receiving services from the Division of Intellectual Disability Services.

Selection of Students

Students for the study were selected by the therapy teams in the various regions of Queensland. The main criterion was the person had a severe communication impairment and severe/profound intellectual disability. Twenty three students were referred for assessment of literacy skills using Facilitated Communication. Three subsequently indicated by body language that they did not want to participate in the study. The remaining twenty students had a mean age of 28.7 years ranging from 19 to 51 years (Standard Deviation = 8.73) and comprised 13 men and 7 women. Before the literacy assessment, all students were assessed on a range of standardised tests by members of the person's regional resource team.

Degree of Intellectual Disability

All students were assessed on either the Stanford-Binet IV (Thorndike, Hagen & Sattler, 1986) or Bayley Scales of Infant Development (Bayley, 1969) and the Coloured Progressive Matrices (Raven, 1960). All students had test scores within the profound range (i.e., IQ less than 25). Their mental age equivalent of raw scores were all below those expected of ordinary four year olds. In addition, all students achieved scores on the Coloured Progressive Matrices that were below the norms of the test (i.e., at a level below that expected of an ordinary six year old).

Diagnosis

The students included eleven with autism, two with Cerebral Palsy, one with Down Syndrome, while the remaining six had no specific diagnosis other than profound intellectual disability. As there were a majority of adults with autism within the sample, the Childhood Autism Rating Scale (Schopler, Reichler & Renner 1988) was used to measure the degree of autism. This scale was originally designed for children but can be applied to adults with autism (Mesibov, Schopler, Schaffer & Michal, 1989). The mean score for these eleven adults was 37.9 (Standard Deviation = 5.93), thus all were in the mild to severely autistic range.

Receptive Vocabulary

The Peabody Picture Vocabulary Test - Revised (Dunn & Dunn, 1981) was administered to all students to measure their level of receptive vocabulary. Of the 20 students, 12 achieved scores below the norms of the test, i.e below one year nine months, with the remaining students achieving scores between one year eleven months and four years six months, however, one student achieved a level of six years four months.

Expressive Language

Two students were able to imitate tongue and lip postures and one was able to protrude the tongue on command. All remaining students were either unable or unwilling to co-operate with an oro-motor assessment for dyspraxia. Oro-motor assessments involve the student being asked to imitate and produce on command actions such as sticking out the tongue, pursing the lips and coughing. It also involves the production of oral movement in sequence, e.g., p, p, p, or la, la, la. Seven students were described as having some limited functional speech. Four of these students used augmentative communication (signs, symbol or picture boards) to supplement their speech, but only one student was able to communicate more than "basic need" information with speech. Thirteen students were reported to be essentially non-communicative with speech or augmentative communication systems.

Limb Function

Occupational therapy assessments indicated that four of the students showed mixed laterality and 13 showed a preference for right dominance. Fourteen students were able to isolate an index finger and five of these 14 presented with abnormal muscle tone. Eighteen students used central gaze and 50% of these 18 were also observed to use a degree of peripheral vision. Fifty per cent of all students in the study had some degree of abnormal muscle tone, although it was difficult to establish whether this was consistent across all daily living situations.

In summary, the majority of students showed a right hand dominance, used central gaze and had difficulty completing simple motor imitation tasks (speech and upper limb). As a sample, the group of students presented as predominantly non-speaking with very limited use of conventional augmentative communication systems.

ASSESSMENT PROCEDURE

The assessment for literacy skills using Facilitated Communication was conducted in the person's home environment (i.e., a residential unit run by the Division of Intellectual Disability Services). The assessments took between sixty and ninety minutes and all were administered by Jane Remington-Gurney. She has had five years' experience of Facilitated Communication with several hundred students. Many of the students had a very short attention span, reluctance to sit still and displayed behaviours which tended to minimise the duration of the interaction such as removing the examiner's glasses, throwing assessment material and moving around the room. The facilitator needed considerable skill and patience in motivating the students to continue the assessment, which included many breaks.

A staff member who knew the person being assessed was present throughout the assessment and was able to assist by suggesting topics of conversation and questions that would be appropriate for the person being assessed. A transcript of questions and responses was made during the assessment which was subsequently analysed for the students' level of conversation and any examples of content validity.

RESULTS

Level of Response

The responses of the students were rated as examples of Levels 1 to 4, with Level 1 being word matching, copy typing, labelling etc., with a series of progressive stages to Level 4 being open "conversation" with the student pointing to letters to compose words and/or sentences. The transcripts of the responses of seventeen students included examples of open "conversation" using words and sentences, i.e. Level 4. The transcripts of one student included examples up to Level 2 and the transcripts of two students only included examples of Level 1. These three students were not noticeably different in age from the others and included one person with Cerebral Palsy and two with autism. Thus, the majority of responses included words and sentences. However, although it appears the students had achieved the ability to spell familiar words and construct sentences during the assessment process, one still cannot determine who is exerting the primary influence, the facilitator or the student without examining whether there is evidence of content validity (i.e., the partner had no prior knowledge or anticipation of the reply given by the student).

Validation

During the assessments there were occasions when the facilitator did not know what the person was going to communicate or whether the response to a question was true. For example, one student was asked:

> "What makes you happy?" and with facilitation he touched the following sequence of letters:
>
> WHENIAMINBED (This was later confirmed by staff as one of the person's preferred activities).

As a person who knew the student well was present during the assessment, it was possible to ask them to think of a question which included a choice of responses with the facilitator unaware which response was appropriate. For example, in the following section of a transcript the appropriate response (identified after the assessment) is underlined.

Observer: Who lives in your house with you? David or Peter

Student: DAVID

Observer: George or Graham

Student: GRAHAM

Observer: Malcolm or Steven

Student: MSTEVEN

Observer: Which staff are in your house? Wendy or Mary

Student: WMENDY

Observer: Sonia or John

Student: SOJOHNIA

Facilitator: Try again
Student: JOSONIA
Observer: Does Roger drive a car or a motorbike
Student: MOTOCAR

There were occasions when an unanticipated response occurred, for example the facilitator asked a student (whose name on the referral sheet was Rex), "Can you spell your name for me?". The student then touched the following sequence of letters -RANN, at which point the facilitator stopped the student from continuing as she considered the student had not understood the task. However, a subsequent examination of the person's original admission sheet included the information that his birth name is Sandy but for years he has been commonly known as Rex.

The previous examples can be used for validation of content but it was not possible to examine validation by structure (i.e., an analysis of spelling, lexicon and syntax to identify consistent structures within sessions and between facilitation). The assessment procedure was for only one session and with one facilitator.

The transcripts for all twenty students were analysed for examples of content validity. Due to the short attention span and avoidance behaviours of many of the students it was not possible to include a sufficient number of questions with multiple choice responses in the assessment process to reduce the likelihood of chance responding. Also, it is recommended that if multiple choice validation is sought, the questions and choices be carefully prepared prior to the facilitation session. Problems may arise if the carers do not know the student well enough to ask questions which elicit specific replies and if the student has particular co-ordination or language difficulties. For example, when asking what the student prefers to drink (and the answer is "coffee") it could be confusing to offer "coffee" with the option of "coke" as both words have three letters in common and on some alphabet displays the "f" is immediately above the "k". Offering a choice of coffee, water or tea would be preferable.

One would require a minimum of ten questions with two options for a student to achieve a response rate that can be confirmed as greater than chance. However, if the assessment processes were conducted on several sessions then a sufficient number of such questions could be asked. The present study is an evaluation of the initial assessment process but part of a longitudinal study of the same students which will examine their responses on each training session. The results of this more extensive research will include a sufficient number of examples to examine content validity using multiple choice questions.

When all the transcripts were analysed for evidence of content validity, nine students gave responses where the partner (facilitator) had no prior knowledge of the content, appropriate answer when given a choice or was not anticipating the response that occurred. Table 1 summarises the data from the analysis of the transcripts.

The relevant transcripts for these students is given below. These nine people included six with autism, and three with unknown aetiology. The conversations with the other students included spontaneous comments and multiple choice questions but the facilitator knew the appropriate answer, thus they cannot be used for validation.

Table 1: The number of students' responses that included examples of content validity

RESPONSES INDICATIVE OF CONTENT VALIDITY

Subject Number	Diagnosis	PPVT-R[2] Age Equivalent (Years-Months)	Spontaneous Comment	Multiple Choice (Number correct as a proportion of number of questions)	Unanticipated Response (Number of Examples)
1	U[1]	2-3			
2	A	<1-9			
3	CP	2-2			
4*	A	<1-9		3/3	
5	A	6-4			
6	CP	<1-9			
7	A	<1-9			
8	DS/A	<1-9			
9*	A	2-9		5/6	
10*	U	1-11		2/2	1
11*	U	3-1			2
12*	A	2-6	2	2/2	
13	U	2-10			
14	A	<1-9			
15*	A	<1-9		3/3	1
16*	U	<1-9		2/2	1
17*	A	<1-9	1	1/1	1
18	U	2-0			
19*	A	<1-9	1		
20	U	4-6			

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[1] A = Autism
DS = Down Syndrome
CP = Cerebral Palsy
U = Unknown Aetiology

[2] PPVT = Peabody Picture Vocabulary Test - Revised

Student No 4

This student was very reluctant to work with an unfamiliar person and would only tolerate brief periods of facilitation within the assessment. The appropriate response is underlined.

Observer: Who works in your house with you, Gary or Leanne?
Student: GARY
Observer: Who is going on the bus trip, James or John?
Student: JAMES
Observer: Who also works in your house, Jamie or Leanne?
Student: JAMIE

It should be noted that all three "correct" responses were the first options. The order should have been random, as in the following:

Student No 9

Observer: Who lives in your house with you? David or Peter?
Student: DAVID
Observer: George or Graham?
Student: GRAHAM
Observer: Malcolm or Steven?
Student: MSTEVEN
Observer: Which staff are in your house? Wendy or Mary?
Student: WMENDY
Observer: Sonia or John?
Student: SOJOHNIA
Facilitator: Try again
Student: JOSONIA
Observer: Does Roger drive a car or a motorbike?
Student: Motorcar

Student No 10

Observer: Who lives in your house, Bronwyn or Peter?
Student: B
Observer: Paula or Janine?
(Facilitator knew of a Janine and expected this to be correct answer)
Student: P

Student No 11

Facilitator: Can you spell your name for me?
(Facilitator was given to understand that the student's name was Rex)
Student: RANN

Facilitator stopped student from continuing as she believed student had not understood the task. However, the student's birth name is "Sandy". Interestingly, the R is next to the S on the alphabet board.

For this student, typing and indicating letters to dictation indicated auditory discrimination problems i.e. P for B, T for D, S for F. Examination of student files later revealed a long standing history of intermittent hearing loss.

Student No 12

Observer: Where were you before you came into this room? Sleeping or drinking?
Student: DSLEEPING
Observer: Who do you live with Rex or Susan (student lives in a mixed sex house, but facilitator was aware of another student named Rex)
Student: REX
Observer: What makes you happy?
Student: WHENIAMINBED
(Observer confirmed this preferred activity. The facilitator was not previously aware of this).
Student: IWANTTOGOTOTHETOILET
(Student had a definite need which was not shown with body language prior to getting to the toilet)

Subject No 15

Observer: Who lives in this house? Rita or Adam?
Student: R
Observer: Frank or Sara?
Student: S
Observer: Tracey or Jim?
Student: T
Observer: Peter or John?
Student: PETER

Subject No 16

Observer: Who lives in your house with you? Robert or Phillip?
Student: ROBERT
Observer: Bernie or Jeff?
Student: BERNIE

The student's christian name on the referral sheet was Rosie but she touched the letters ROSY which is the correct spelling of her name.

Subject No 17

Observer: Who just left your house?
Student: MA
Observer: Mark, Maria or Mavis?
Student: MARIA
Facilitator to Observer: Does student's dad visit her?
Student: ILOSTHIMWHENIWASSMALL
(Later revealed that the student was placed in an institution following the divorce of her parents)
Facilitator: Can you tell me about your dad?
Student: DADISTALLANDDADISEDADHEWORKSWITHMASHEENS
(Father is a dentist)

Subject No 19

Facilitator: How are you?
Student: HAVEBEENBADFORLONGUPNOTGOOD
Facilitator: What do you mean?
Student: FASTOFFSHELF
Care worker advised that student may be trying to explain an incident which occurred immediately prior to the assessment
Facilitator: Go on, explain what you mean
Student: FASTOFFSHELFANDBAD
Facilitator: Tell me more
Student: EVERSODAGHENOTY6UPSETMEWANTCOFFEENOT CHEAPCOFFEE

Unknown to the facilitator the student had obsessive behaviour for coffee and had disturbed jars of coffee in the supermarket prior to coming for the Facilitated Communication assessment. This student was autistic, non-verbal and without any form of augmentative communication.

To briefly summarise the results, nine of the twenty students showed literacy skills via Facilitated Communication in that they were capable of touching a sequence of letters to construct appropriate words or sentences to answer questions or make comments where the facilitator was unaware of the appropriate response. Whether the remaining eleven students had achieved literacy skills remains unproven.

DISCUSSION

The study identified a sample of twenty adults who had been assessed on standardised tests of intelligence and communication as profoundly disabled. They then underwent an assessment for literacy skills using Facilitated Communication. This controversial technique involves a facilitator providing physical support to slow and steady (but not direct) a person's hand and isolated index finger to a target, usually a communication display. The technique involves four conversation levels, from matching and copy typing (Level 1) to open conversation (Level 4). During the assessments for literacy skills, the responses of 17 students were recorded as Level 4. However, it is important to know who is communicating, the student or facilitator. The study devised a new method of examining the validity of the responses, namely examining the transcripts for occasions when the facilitator had no prior knowledge of the content of the response (content validity). The study used three forms of content validity, spontaneous comment as part of an open conversation, multiple choice where one answer is "correct" and unanticipated response where the students' response is appropriate but was not anticipated. Using these measures the responses of nine students had at least one example of these forms of content validity.

During the assessments for the other eleven students the circumstances did not allow the facilitator to direct the "conversation" and questions to elicit evidence of content validity. The reason was the behaviour of the students and the nature of the assessment process. All students had a very short concentration span and required considerable skill in encouraging them to continue the assessment. The assessment was easier to conduct with conversations on every day and relevant activities but unfortunately much of the "conversation" included information known to the facilitator and therefore could not be used for validation. The assessment procedure was designed to avoid confrontational tasks and the "formal" structure and atmosphere that occurs when administering standardised tests. This approach was used to ensure the assessment was "user friendly" for the student. A consequence of this approach is that for some students the facilitator was not able to engineer situations to check content validity.

When one examines the transcripts for the nine students who had at least one example of content validity one cannot categorically state they have achieved literacy skills. However, their performance on the assessment suggests they should undergo further assessment and training for literacy skills. This should be undertaken using a team approach including people who are qualified in speech and occupational therapy and teachers of adult literacy. Certainly these students should now experience an environment and curriculum where literacy skills are encouraged.

In retrospect, it would have helped to have had more time with the carers of the students prior to the assessment and to construct a list of topics and questions specifically for validation. A partner in the assessment process could compile this list, ensuring the facilitator was unaware of the appropriate replies. There would need to be a minimum of ten multiple choice questions ensuring the correct response was randomly distributed within the choices. This present study analysed the responses of one assessment for each student, but it may be more appropriate to spread the assessment over several sessions to ensure adequate opportunity to examine content validity, and allow the student opportunity to initiate and choose conversation topics.

Despite the limitations of the procedures used in the assessment the results of the present study suggest that nine of the students may have acquired literacy skills. However, as these people had an extremely limited speech and gestural language and achieved such low scores on standardised tests of intelligence, one would not normally consider they had the capacity to understand and use letters as a means of communication. However, if one examines the specific visuo-spatial and perceptual abilities necessary to be able to read, certain diagnostic groups, particularly those with autism have long been known to have demonstrable skills in these areas (Donnellan, Sabin & Majure, 1992), and six of these nine students have autism. As a language code, reading may be easier to acquire than fluent speech (Doake, 1988). Certainly the studies on hyperlexia and hermetic reading where there are unexpectedly advanced abilities in encoding and decoding the written word includes many subjects with autism (Frith & Snowling, 1983; Sabin 1991). It may well be that the ability to read may be achieved without the ability to speak. If someone does acquire sufficient "inner language" to read, why can't they speak? The answer may be due to specific motor impairments. Maurer and Damasio (1982) have put forward a neurological model for autism that proposed that the symptoms of autism are indicative of the need for physical support to imitate, follow through and stop some movements. Whether this is a form of akinesia or bradykinesia as suggested by Donnellan, Sabin and Majure (1992) or apraxia (or even dyspraxia) as suggested by Crossly, Remington-Gurney and Batt (1987) and Biklin (1990) we do not know. However, one of the students mentioned by Donnellan et al. (1992) typed "IDONTMAKEWERDSINSOUND" (Translation: I don't make words in sound). Thus there may be a motor impairment preventing the person from speaking and reading aloud, the main way we test literacy skills.

The touch component of Facilitated Communication may lead to controversy over who is making the movements. Nevertheless, the value of touch and physical prompts has been recognised by teachers of autistic children and adults, and has been used to assist in mastering motor problems in many neurologically based disorders (Sacks, 1982). Thus the students in the present study with autism and those with Cerebral Palsy may be expected to benefit from a technique that improves motor performance.

The 20 students who were assessed for literacy skills are subjects in a six month study of the long term development of students' competence with Facilitated Communication. To date, (i.e., after three months) several of the students who did not have the opportunity to have their communication authenticated, (i.e. confirmed using content and style analysis for validation) have produced responses that are consistent in content and style using other facilitators. This long term study is also providing a detailed analysis of students' errors and discovering specific patterns such as perseveration and word finding difficulties that suggest neurological impairment. The students are also demonstrating a range of spelling strategies including phonetic spelling. The study is also providing training for therapy and care staff and advances are being made in the technique. For example, in the course of gathering data it became clear that the way questions were phrased to test content influenced the outcome. For example, some students were often unable to spontaneously name the people with whom they share their home but were able to do this task when confronted with a choice of two names.

Examiner: "Tell me who lives in the house with you"

Facilitated student: No response

Examiner: "Is it George or Elizabeth?"

Facilitated student: "George"

In the early stages of learning to use Facilitated Communication the student may have had little or no opportunity to respond to open questions. A verbal prompt by way of a sentence completion i.e., "I share my house with ___ " or choosing between two or three possible answers is advocated. Obviously, a record should be made of the student's consistency of responding to fixed choice questions since, as mentioned previously, the element of chance could be a significant variable in this method.

One of the components of the assessment and training process is corrective guidance. There may well be occasions when the student is about to touch or "type" the wrong letter or perseverate on the previous response. Here, one may legitimately stop the student's movement, ask them to wait and think and if necessary offer a choice of the correct or an alternative letter, with the letters being some distance from each other. It is also important to ensure the correct response is not always given first or last in the sentence.

We have found a range of competence among the twenty initial facilitators under training in this longitudinal study. Some are achieving success quite rapidly, others need more experience. Undoubtedly, for facilitators the technique is harder to learn and use than it appears.

One implication of this study is that if a person cannot speak and performs poorly on intelligence tests where they have to manipulate objects or accurately point to a picture, one should not automatically assume that they are incapable of learning to read and to communicate by spelling words. Facilitated Communication may prove to be an effective way of assessing, demonstrating and using literacy skills.

The authors emphasise that the technique is not a magical cure. Although a student may achieve a means of communication using typed words and be more able to express their thoughts and feelings, they remain functionally very disabled with a continuing need for support and care. There is very little longitudinal data on students who use Facilitated Communication, but the authors have noted that so far students primarily use "typed" communication in structured interaction and there is a noticeable lack of spontaneous "conversation" (i.e., approaching another person and starting the interaction using a communication board or electronic keyboard).

The long term goal is complete independence from the support provided by the facilitator. As long as the technique relies on the facilitator touching the students' hand, wrist or arms there will inevitably be some doubt as to whether the response comes primarily from the student or facilitator. Over time, the amount of support must be faded but it may take years before independent fluency is achieved. In the meantime, one must be aware that the technique will always be prone to undue influence by over-optimistic facilitators. The facilitator must remain objective and regularly seek evidence that the communication is that of the student and avoid any unintentional steering of the person's movement to the correct response. The students must also receive training and opportunity to practise strategies to minimise manipulation and misunderstanding (i.e., learning to pull their hand away from a display, to point to items such as "mistake", "start again"). Similarly, to learn how to signal the content was intended as a joke. The assistance of skilled teachers in communication pragmatics is strongly advocated in the Facilitated Communication training process.

Summary

A group of 20 adults who achieved scores on standardised tests of intelligence within the profound range of intellectual disability and who had not acquired functional speech, were assessed for the presence of literacy skills using a controversial technique called Facilitated Communication. This involves the use of physical touch to assist the person in their accuracy when pointing to objects, pictures, words or letters. A valid criticism of the technique is that one cannot always be certain the response is that of the student or the facilitator. However, one approach to minimise the potential influence of the facilitator and confirm the author of the response is to ensure the correct reply is unknown to the facilitator (content validation).

The students were assessed for literacy skills by an experienced facilitator using a protocol different from ordinary tests and using age appropriate material. Seventeen students were able to spell familiar words or produce spontaneous sentences but only nine had responses that demonstrated content validity. However, one would normally discount any literacy skills with this population. The theoretical implications of the results are discussed and Facilitated Communication is proposed as a viable means of assessing literacy skills.

APPENDIX

Photo 1: Facilitated Communication: Alphabet and Symbol Displays

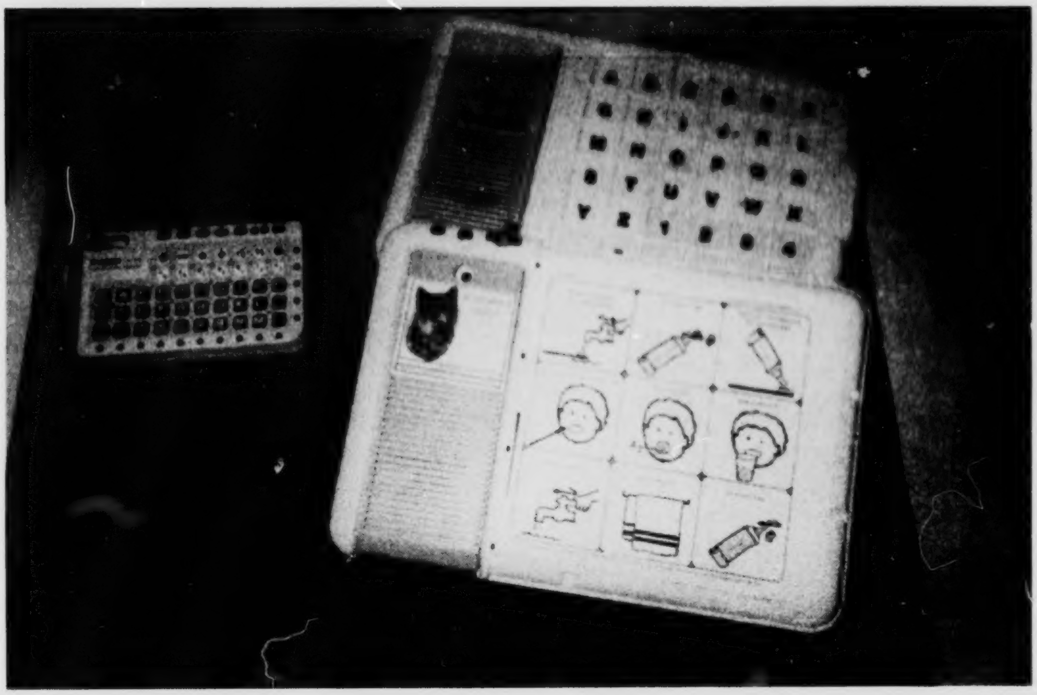


Photo 2: Facilitated Communication for Ambulant Users: Canon Communicator and Vocaid are two options available

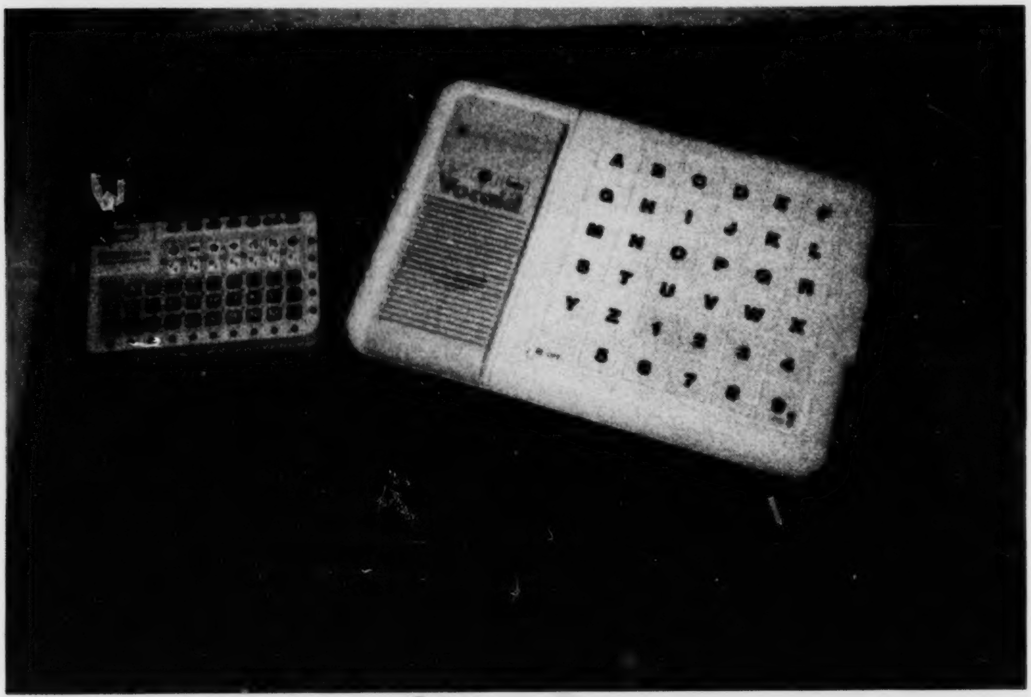

A B C D E F
G H I J K L
M N O P Q R
S T U V W X
Y Z 1 2 3 4
5 6 7 8 9
Vocaid

Photo 3: Facilitated Communication Using Extended Keyboards

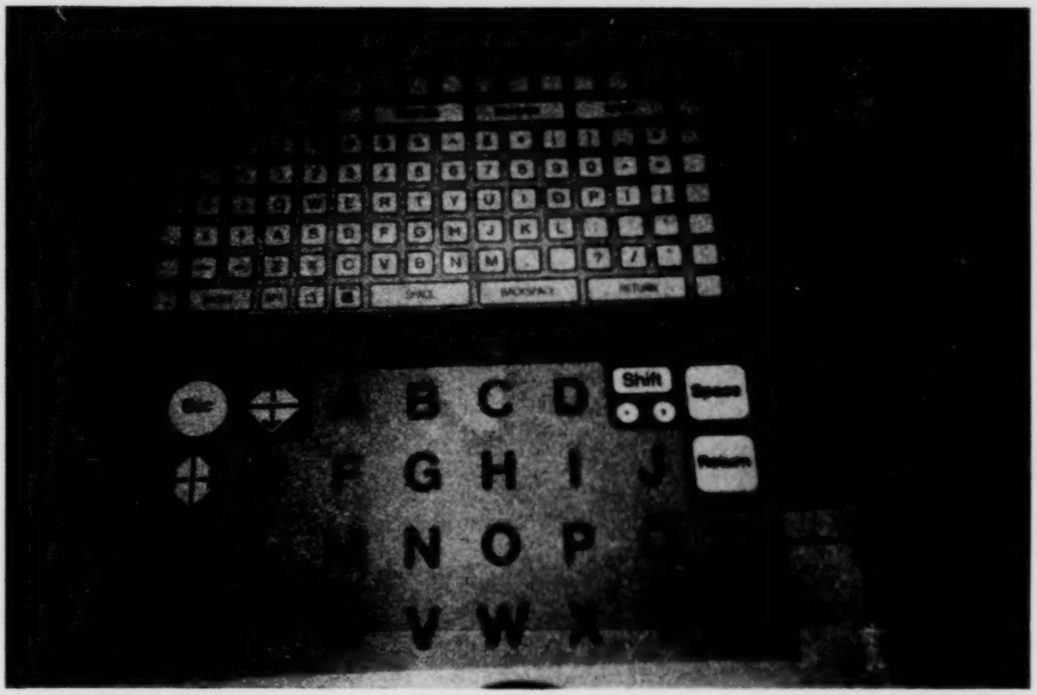

SPACE
BACKSPACE
RETURN
Shift
Space
Return
B C D
G H I J
N O P
V W X

Photo 4: Facilitated Switch Access: Switches may be accessed using Facilitation for communication, recreation or environmental control purposes.

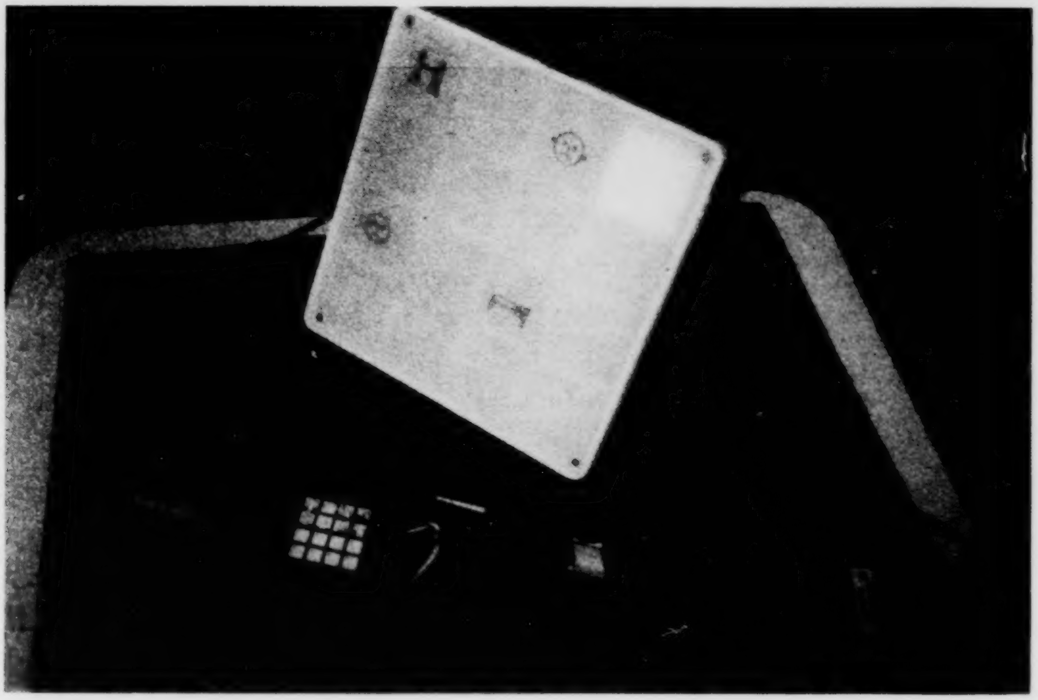
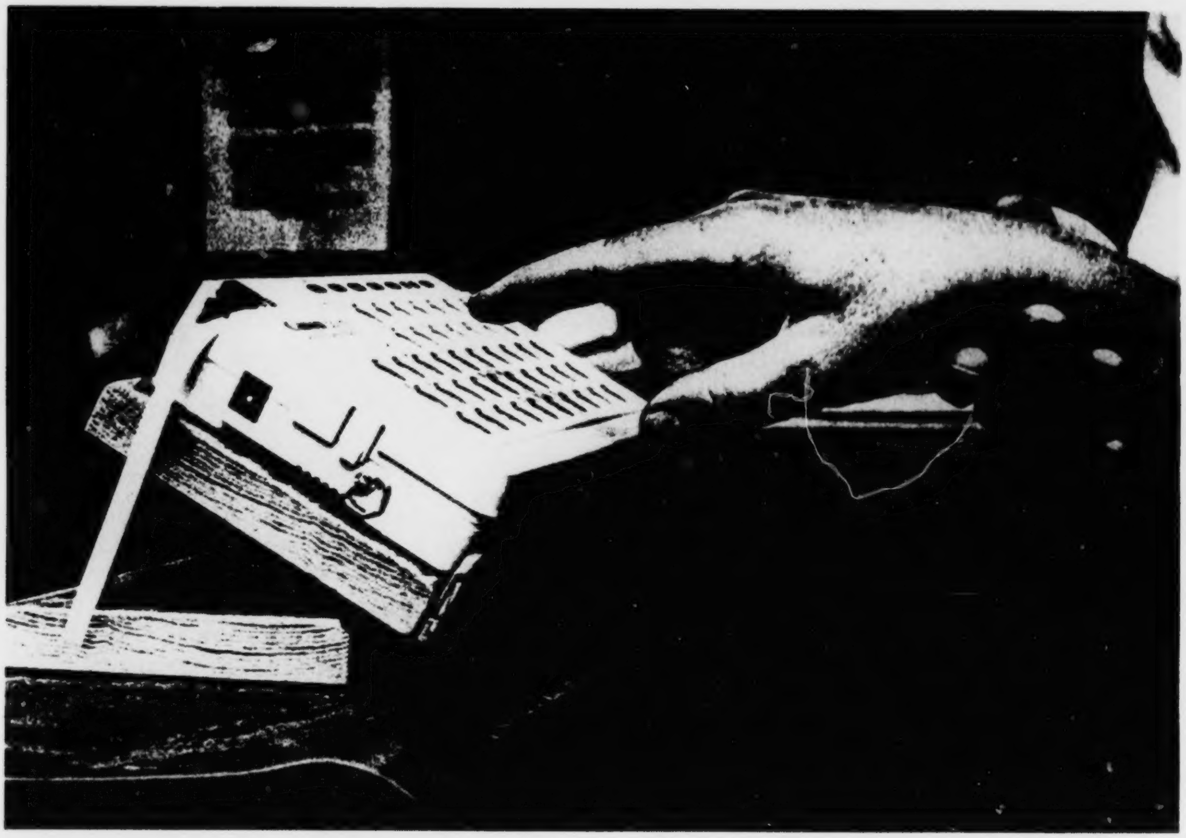


Photo 5: Accessory Equipment: Use of a wedge to position the communication device plus a non-slip mat and table or chair of suitable height may improve performance



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AN INVESTIGATION OF THE USE OF REBUSES, AND THE STRATEGY OF SYMBOL FADING TO ENHANCE THE LITERACY SKILLS OF TWELVE INDIVIDUALS WITH INTELLECTUAL DISABILITIES

PETREA WOOLARD

AND

LIBBY GROVES

INTRODUCTION

This paper presents the results of a study of the development of literacy skills in 12 adults who have either a moderate or severe intellectual disability. The adults' literacy skills were developed using print enhanced by rebuses, within the context of a whole language approach to literacy learning.

People with an intellectual disability are frequently categorised according to the American Association of Mental Deficiency (AAMD) classification as falling into the categories of mild, moderate, severe or profound intellectual disability. The individuals who participated in this study are considered to have either a moderate or a severe intellectual disability and would have frequently been excluded from experiences with text. Their lives would have focused more on daily care routines than on education or empowerment (Blackstone, 1989; Buckley, 1985). These individuals may have limited, if any, speech, may be using an augmentative communication system to enhance their communication, and may have other impairments such as poor motor co-ordination. Their life experiences would differ greatly from those of the rest of the community.

There is debate as to why one would want to develop literacy in people with such significant disabilities rather than focusing on daily care or social skills. The reason is alarmingly simple: empowerment—enabling people to take control of their lives, to organise doctor's appointments, negotiate work contracts, read the news, prepare their own meals and advocate on their own behalf.

Eleven of the twelve individuals in this study relied on an augmentative communication mode to support their communication. Koppenhaver, Evans and Yoder (1991) suggest that reading and writing are even more essential to individuals using augmentative communication. These authors propose that literacy skills unlock the doors to independent communication, enhance vocabulary growth, extend language complexity and offer access to more self-initiated interactions.

This particular study investigates the use of rebuses in conjunction with print as a medium to develop literacy. The use of rebuses as a form of communication is not new. The writing of the ancient Egyptians is a form of rebus. Rebuses are used as part of the road systems, for example the warning signs indicating a pedestrian crossing.

The term rebus is used in reference to geometric or pictographic forms which represent entire words or parts of words (Woodcock, 1968). According to Clark (1984) the rebus system allows the exact representation of English syntax and the construction of highly complex sentences. Musselwhite and St Louis (1988) state that rebuses may be classified into four categories: concrete symbols (these primarily depict objects or actions); relational symbols (these primarily depict locations or directions); abstract symbols (these are arbitrary symbols); and symbol combinations (these are a combination of two or more rebuses or a combination of letters and a rebus).

The rebuses used in this study were drawn from Makaton symbols (Walker, 1985) and were supplemented with symbols from the Rebus Glossary (van Oosterm & Devereux 1985) and COMPIC Symbols (COMPIC, 1989). In this paper the term rebus and symbol are used interchangeably.

Woodcock (1968) when examining the relationship between rebus and reading states:

> The rebus may be used to represent words that have a high interest value so without imposing upon the pupil the task of learning to read those words, the author is able to write interesting stories of high quality … The use of rebuses makes possible a wider use of the child's vocabulary. (p. 3)

The implication is that the rebuses are used to visually enhance the text and because of the largely pictographic nature of the rebus, limited energy is expended in learning and decoding print, the focus being to determine the meaning of the text.

Park (1988) provides additional support for Woodcock's statement and discusses the use of rebus to enhance literacy skills of students with an intellectual disability. He states that these students will have less ability in understanding the purposes of text and less ability in conferring meaning upon print. In order to develop these abilities which he considers relate to non-visual information (i.e., the knowledge and expectations the reader will bring to bear on the text), the text itself must be enhanced with additional visual information. This again supports the approach used in this study where rebuses, a medium which is highly iconic and easy to recall, according to authors Hurlbut, Iwata and Green (1982), Musselwhite and Ruscello (1984), Ecklund and Riechle (1987), Mirenda and Locke (1989), Mizuko and Riechle (1989), were used as additional visual information.

When considering how to fade the rebuses and leave the individual recognising print there are many alternatives. Henderson (1988) and Carpenter (1986) indicate that if an individual is going to recognise print than he or she may start by recognising family names. These authors suggest that the rebuses can gradually be faded by reducing their size or gradually fading out portions of the symbol. In this process the word remains the same size gradually assuming prominence as the symbol size reduces. Worrall and Singh (1983) propose integrating the rebus within the print. The rebus is gradually faded leaving the word remaining. In this study the former strategy of gradually reducing the rebus size was selected as the most appropriate technique because of the individual abilities and needs of the twelve participants.

METHODOLOGY

Participants

Group A

John (pseudonyms are used throughout) is a 41 year old man who is considered to have a moderate intellectual disability. He has retinitis pigmentosa and a profound bilateral sensorineural hearing loss. Any combination of retinitis pigmentosa and deafness in usually described as Usher Syndrome by opthalmologists and otologists (Admiraal, 1989). Hearing aids were not fitted to John. He is an augmentative and alternative communication user. His primary mode of communication is sign used within the Makaton framework. He uses natural gesture, facial expression and rebuses to supplement his communication. John currently lives in a large residential centre for adults who have an intellectual disability. He attended a school for the deaf for one year. Prior to participation in this study he had been involved in a symbol literacy course at TAFE, involving two sessions per week for a period of four semesters. At commencement of the study John recognized approximately 300 single rebuses and phrases with 3 words symboled. He responded using single symbols and up to 3 sign combinations.

David is an 18 year old man who is considered to have a moderate intellectual disability. He has oral-facial syndrome which is thought to be inherited either as a dominant X-linked trait, or as a sex-linked autosomal dominant (Holmes, Moser, Halldorsson, Mack, Pant & Matzilevich, 1972). He exhibits a number of clinical symptoms reported in the literature (Holmes, et al., 1972, Smith, 1970) including hypoplasia of alar cartilages, short philtrum, lateral placement of inner canthi and a midline cleft lip. David also has episodic dyscontrol syndrome which is exhibited through recurrent attacks of uncontrollable rage—symptomatic of temporal lobe instability , the EEG features of which are similar to that found in temporal lobe epilepsy. His primary mode of communication is speech. David currently lives in a house in the community with 4 other young men who have an intellectual disability. He attended special school until the age of 16 years. Prior to participation in this study David had not participated in a symbol literacy course. At commencement of the study he recognized approximately 350 symbols and approximately 30 commonly occurring words.

Margaret is a 40 year old female who is considered to have a severe intellectual disability. She has a congenitally enlarged heart and diabetes. Margaret also has a moderate bilateral mixed hearing loss and wears binaural behind-the-ear hearing aids. Her primary mode of communication is speech. She supplements her communication with natural gesture, signs and symbols. The signs and symbols are used within a Makaton framework. Margaret currently lives in a large residential centre for adults who have an intellectual disability. She attended a special school for 5 years. Prior to participation in this study Margaret had been involved in a symbol literacy course at TAFE, involving two sessions per week for a period of four semesters. At commencement of the study she recognized approximately 300 single rebuses and phrases with 4 words symboled. She responded using up to 4 symbol combinations and 4 sign combinations.

Graeme is a 41 year old man who is considered to have a moderate to severe intellectual disability. He has a bilateral severe sensorineural hearing impairment and wears binaural behind-the-ear hearing aids. Graeme also has a mild form of spastic cerebral palsy with particular involvement of the left side. He uses a multimodal communication approach. He uses both signs and symbols within a Makaton framework and supplements his communication with natural gesture. Graeme currently lives in a large residential centre for adults who have an intellectual disability. He has received no formal schooling. Prior to participation in this study Graeme had been involved in a symbol literacy course at TAFE, involving two sessions per week for a period of 4 semesters. At the commencement of the study he recognized approximately 300 single rebuses and phrases with 3 words symboled. He responded using 2 pictographic symbol combinations and up to 3 sign combinations.

Susan is a 27 year old female who is considered to have a moderate to severe intellectual disability. She has cerebral palsy and as a result presents with difficulties in motor planning. Susan is an augmentative and alternative communication user. Her primary mode of communication is speech and symbols used within a Makaton framework. She also uses natural gesture and signs to supplement her communication. Susan currently lives in a house in the community. She has received no formal schooling. Prior to participation is this study Susan had been involved in a symbol literacy course at TAFE, involving two sessions per week for a period of 4 semesters. At the commencement of the study she recognized approximately 350 single rebuses and phrases with 4 words symboled. She responded using up to 3 symbol combinations, natural gestures and single signs.

Peter is a 21 year old man who is considered to have a moderate to severe intellectual disability. He is an augmentative and alternative communication user. His primary mode of communication is sign which is supplemented with speech and symbols. Peter uses signs and symbols within a Makaton framework. He currently lives in a house in the community with 4 other young men who have an intellectual disability. He attended special school until the age of 18 years. Prior to participation in this study Peter had been involved in a symbol literacy course at TAFE, involving two sessions per week for a period of 3 semesters. At commencement of the study he recognized approximately 300 single rebuses and phrases with 4 words symboled. He responded using up to 3 symbol combinations and 4 sign combinations.

Group B

Ivan is a 42 year old man who is considered to have a severe intellectual disability. He has Down Syndrome and a suspected hearing impairment. Ivan uses multimodal communication including sign, natural gesture and facial expression. His augmentative communication system is used within a Makaton approach. Ivan currently lives in a house in the community with 4 other individuals who have an intellectual disability. He has received no formal schooling. Prior to participation in this study Ivan had not been involved in a symbol literacy course. At the commencement of the study he recognized approximately 20 single rebuses and responded using up to 3 sign combinations.

Richard is a 20 year old man who is considered to have a severe intellectual disability. His primary mode of communication is speech which is supported with signs. Richard also uses symbols to supplement his communication. His augmentative communication systems are used within a Makaton framework. Richard currently lives in a villa within a large residential centre for adults and children who have an intellectual disability. He attended non-government special schools for 13 years and an activity therapy centre for 1 year. Prior to participation in this study Richard had not been involved in a symbol literacy course. At the commencement of the study he recognized approximately 80 single pictographic rebuses and responded using speech and signs.

Douglas is a 20 year old man who is considered to have a severe intellectual disability. He has autism and temporal lobe epilepsy. Douglas is an augmentative and alternative communication user. His primary mode of communication is sign and speech used within a Makaton framework. He uses objects and symbols to supplement his communication. Douglas currently lives in a villa within a large residential centre for adults and children who have an intellectual disability. He attended an autistic centre for 16 years. Prior to participation in this study Douglas had been involved in a symbol literacy course at TAFE, comprising 1 session per week for 1.5 semesters. At commencement of the study he recognized approximately 30 rebuses and responded using approximately 10 single symbols and signs.

Jason is a 44 year old man who is considered to have a severe intellectual disability. His primary mode of communication is speech. He uses natural gesture and sign to supplement his communication. Signs are used within a Makaton approach. Jason currently lives in a house in the community with 4 other individuals who have an intellectual disability. He has received no formal schooling. Prior to participation in this study Jason had been involved in a symbol literacy course at TAFE, comprising 1 session per week for 2 semesters. At the commencement of the study he recognized approximately 15 pictographic symbols and responded using signs and single symbols.

Belinda is a 24 year old female who is considered to have a severe intellectual disability. She has congenital rubella and as a result she has a profound bilateral sensorineural hearing loss, clouding of the retina and a psychomotor disturbance. Belinda's primary mode of communication is pointing which is supplemented by signs. Belinda currently lives in a house in the community with 4 other individuals who have an intellectual disability. She attended a special school until the age of 15 years. Prior to participation in this study Belinda had been involved in a symbol literacy course at TAFE, comprising 1 session per week for 1 semester. At commencement of the study she recognized 10 rebuses and responded using pointing, signs and 4 or 5 single symbols.

Matthew is a 26 year old man who is considered to have a severe intellectual disability. He has congenital rubella and as a result has spastic cerebral palsy and a profound bilateral sensorineural hearing loss. He has rejected the use of binaural behind-the-ear hearing aids. Matthew's primary mode of communication is sign used within a Makaton framework. He supplements his communication with natural gesture, facial expression and fingerspelling. Matthew currently lives in a house in the community with 4 other individuals who have an intellectual disability. He attended a school for the deaf for 16 years. Prior to participation in this study Matthew had been involved in a symbol literacy course at TAFE, comprising 1 session per week for 2 semesters. At the commencement of the study he recognized approximately 70 single rebuses and responded using single signs.

Procedure

The twelve individuals involved in the project attended a local TAFE campus situated in either Ipswich or Brisbane. The twelve individuals were divided into two groups of six and attended the campus closest to their residential address. Each student attended a three hour session twice per week for the ten week duration of the project.

Each group was run by two experienced teachers who were speech therapists and one tutor. The Ipswich tutor was a fourth year speech therapy student who had no experience working with adults with an intellectual disability. This tutor had limited signing skills and no knowledge of rebuses prior to the project. The Brisbane tutor was a newly graduated special education trained teacher with four months experience working in special schools. This tutor had limited signing skills and no experience with rebuses prior to the project. Both tutors were provided with additional training in the use of signs.

All experienced teachers used speech, signs, and symbols consistently throughout the day. Thus, signs, rebuses and speech were used spontaneously and naturally by all staff.

Concepts were selected for the project on the basis of individual needs, environmental needs, shared routines and the need to extend the grammatical complexity of sentences for individuals. This meant that there was a core of concepts which were predetermined. However, additional concepts were introduced spontaneously by the teachers for the individuals especially in the introductory sessions. These concepts would then be used informally with the individuals for whom they were relevant. Informal records were kept of the individual's use of these concepts.

The preselected concepts were introduced in the first five weeks and then these were used in as many different activities as possible. Signs and rebuses were introduced simultaneously.

Each three hour session was structured to ensure the individuals participated in a variety of motivating and relevant activities. Sessions were also planned so that preselected concepts were used informally and so that each person's understanding and use of concepts were assessed on a formal basis.

Sessions were generally divided into five parts. These included (1) an introductory/ greeting session, (2) a small group game or activity, (3) a large group activity, (4) individual use of the computer, and (5) formal assessment. Within these five sessions specific activities varied from Group A to Group B due to differences in the subject's experiences with symbol literacy, their individual vocabularies and their interests.

Session 1

During the introductory session, participants in Group A took turns in telling the group about activities they had been involved in during the last few days. Each person's "story" was written and symboled on the whiteboard. Over time, the number of words supported by symbols was decreased as participants started to read text. Individuals then read aloud their "story" to the group.

During the first session participants in Group B indicated the names of individuals who were present and absent. People's names and rebuses were recorded on a whiteboard and participants matched photographs to the names and rebuses. The group also discussed how each individual travelled to TAFE or what they were wearing and this was recorded on the whiteboard.

Session 2

For Group A, Session 2 usually involved participating in a small group game or activity. These sessions were planned so the participants were involved in a variety of activities to encourage understanding and use of concepts. Games which were played included memory, dominoes, snakes and ladders and other board games. During these activities rebuses were matched to rebuses or rebuses to pictures. Other activities involved matching rebuses to words relating to a picture and completing a crossword. To encourage individuals to respond using signs, speech and/or symbols participants selected coloured pictures, black and white pictures and cartoons from which they created a story. Staff then wrote and symboled each story and individuals copied the writing. Additionally, the group watched short videos, created a story to match and wrote or copied it. During these activities 2.5cmx2.5cm symbols were used.

Session 2 was also a small group game or activity for Group B. Games which were played included memory, dominoes, bingo and other board games. During these games individuals matched rebuses to pictures and/or rebuses to rebuses. Group B also matched rebuses to complete a crossword. Participants created their own sentences about what they were doing, wearing, or things they like, or from pictures. These sentences were written and symboled by staff and the participants were encouraged to read the sentences and copy the writing.

Session 3

This large group session frequently involved producing and/or following a simple recipe or directions. During some sessions Group A made snacks (e.g. a sandwich) and then reproduced the recipe step-by-step. This involved individuals telling the tutor what was involved in each step. Each step was then written and participants cut and glued the appropriate symbols on the recipe and read each step. In other sessions the participants followed pre-prepared recipes or directions. Over the ten week period the group made sandwiches, waffles, coffee, liqueur coffee, hot dogs, cup-a-soup and decorated easter eggs. The size of symbols used in these activities was 2.5cmx2.5cm.

In session 3 individuals in Group B followed recipes to make liqueur coffee and followed directions to make easter cards.

Session 4

Individuals in Group A used a BBC Master computer with a touch screen and concept keyboard during the project. The computer was used on an individual basis. Initially, as an introduction to the use of the computer participants played simple games and activities. Using the concept keyboard individuals then produced symboled sentences in response to pictures. For example, they produced sentences with two and three grammatical elements such as "the man is sitting". In this example the subject "man" was selected from a choice of eleven subjects and the "sitting" from a choice of ten present tense verbs written and symboled on a concept keyboard overlay. The article "the" and the verb to be (present tense) "is" were preselected. All concepts were written and symboled in the appropriate grammatical sequence to facilitate selection. Participants also created their own sentences about their own and other people's "likes". In this activity the subject, present tense verb and direct and indirect objects were selected from a choice of concepts. The verb "likes" and the conjunction "and" were preselected.

Group B used an Archimedes computer during the project. The Archimedes was accessed using the keyboard and a concept keyboard. One subject and one staff person used the computer at a time. Group B used programs which involved problem solving tasks, simple sequencing of events and categorization activities.

Session 5

For Group A a formal assessment session occurred each week. Each person was assessed on an individual basis with one staff person.

The formal assessment was divided into two sections: (1) assessment of the participant's understanding of symbols and (2) assessment of the participant's ability to respond using symbols.

The participants' understanding of symbols was assessed in five phases:

1. understanding of single word and 5cmx5cm symbol
2. understanding of word and 5cmx5cm symbol in 4, 6 or 7 word symboled phrases
3. understanding of word and 2.5cmx2.5cm symbol in 4, 6 or 7 word symboled phrases
4. understanding of word and 1cmx1cm symbol in 4, 6 or 7 word symboled phrases
5. understanding of word and 0.5cmx0.5cm symbol in 4, 6 or 7 word symboled phrases

To assess participants' understanding of single words and 5cmx5cm symbols they were presented with single symbols and asked to answer the question "What is it?" Participants responded using speech, signs and natural gesture. The remaining four assessment phases involved reading a symboled phrase and selecting a picture to match from a choice of 6 pictures or reading a symboled phrase and selecting the matching object combination from a choice of three combinations. Assessment of participants' understanding of symboled phrases also involved reading a phrase and following the request by manipulating objects e.g., "put the spoon on the plate".

The participants' ability to respond using symbols was assessed in the following phases:

1. responding with a single word and 5cmx5cm symbol
2. responding with word and 5cmx5cm symbol in 4, 6 and 7 word symboled phrases

To assess participants' ability to respond using single words and 5cmx5cm symbols they were presented with an object or picture and asked to select the appropriate symbol from a choice of 6 to 8 symbols. Assessment in the remaining phase involved the selection of symbols to produce a phrase in response to a picture or object combination. "The" and "is" were preselected and the subject, verb and object were selected from a choice of 4 symbols.

The participants' understanding and use of symbols was also recorded informally during each session. This enabled comparison of their ability to understand and respond using symbols in a formal, structured assessment situation and in informal, functional situations.

Members of Group B also participated in a formal assessment session each week. Each person was assessed on an individual basis with one staff person. The formal assessment was divided into two sections: (1) assessment of the participant's recognition of symbols and (2) assessment of the participant's ability to respond using symbols.

The participants' recognition of symbols was assessed in two phases:

1. recognition of single word and 10cmx10cm symbol
2. recognition of word and 5cmx5cm symbol in 2 and 3 word symboled phrases

To assess participants' recognition of single words and 10cmx10cm symbols they were presented with a single symbol and asked to select the matching picture or line drawing from a choice of 3. Assessment of the participants' recognition of words and 10cmx10cm symbols in 2 and 3 word symboled phrases involved reading a symboled phrase and selecting a picture to match from a choice of 3 pictures.

The participants' ability to respond using symbols was assessed in two phases:

1. responding with a single word and 10cmx10cm symbol
2. responding with word and 5cmx5cm symbol in a 2 word symboled phrase

To assess participants' ability to respond using single words and 10cmx10cm symbols they were presented with a picture and asked to select the appropriate symbol from a choice of

3. Assessment of the participants' ability to respond with a word and 5cmx5cm symbol in a phrase involved responding to a picture by selecting symbols to produce a phrase.

The tutors recorded participants' informal recognition and use of symbols during each session. This enabled comparison of their ability to recognize and respond using symbols in a formal, structured assessment situation and in informal, functional situations.

Group A participants were also required to complete one homework exercise per week. These exercises encouraged generalisation of reading into the home environment and also increased care staff and families awareness of the individuals' skills and interests.

Activities usually involved cutting out and matching symbols to words for a number of small pictures or cartoons.

RESULTS

Results for the 12 participants are shown in Tables 1 and 2.

Table 1: Percentage correct response to assessment probes for Group A

	ASSESSMENT PHASE						
	UNDERSTANDING					*RESPONDING*	
	Percent correct					Percent correct	
Participant	1	2	3	4	5	1	2
John	94	91	85	85	82	83	83
David	100	91	100	94	97	100	100
Margaret	100	91	94	97	94	74	74
Graeme	85	76	68	53	0	*	*
Susan	91	85	94	71	88	83	83
Peter	94	88	#	#	#	#	#

# - Participant unavailable for assessment
* - Insufficient assessment data

John showed a consistent ability to read and understand phrases regardless of the decrease in symbol size. His ability to respond was assessed via two activities. The first activity involved associating a picture to a word and symbol in a phrase and the second activity involved associating a word and symbol in a phrase to appropriately positioned objects (e.g., "put the spoon in the cup").

David also showed a consistent ability to read and understand phrases regardless of the symbol size. His ability to respond was evaluated in two different activities. The first activity involved associating a picture to a word and symbol in a phrase and the second activity involved associating a word and symbol in a phrase to appropriately positioned objects.

Margaret demonstrated a consistent ability to read and understand phrases regardless of symbol size. In activities requiring her to respond using symbols in a phrase Margaret required prompts to correctly sequence the selected symbols.

Graeme showed a consistent ability to read and understand phrases when symbols were 5cmx5cm. He started to experience difficulties reading symboled phrases when the size of the symbols was reduced to 2.5cmx2.5cm. When the size of symbols was subsequently reduced to 1cmx1cm Graeme experienced significant difficulties reading and understanding phrases. At this point the tutors decided that further reduction in symbol size was contraindicated. Due to the small number of tasks completed by Graeme in the responding activities no information can be extrapolated from this data. However, records indicate that he required a significant number of prompts to complete the tasks.

Susan demonstrated a consistent ability to read and understand symboled phrases. The lower score recorded in assessment phase 4 (71%) is attributed to the Susan experiencing fatigue. In activities requiring her to respond using symbols in a phrase she required prompts to correctly sequence the selected symbols.

Peter showed consistent ability to read and understand a word and 5cmx5cm symbol in a phrase. However, he was unavailable for further evaluation.

Table 2: Percentage correct response to assessment probes for Group B

	ASSESSMENT PHASE			
	RECOGNISING		*RESPONDING*	
	Percent correct		Percent correct	
Participant	1	2	1	2
Ivan	100	0	25	#
Richard	55	55	55	33
Douglas	86	13	86	13
Jason	82	27	15	*
Belinda	50	6	*	*
Matthew	75	*	34	*

# Participant unavailable for assessment
* Insufficient assessment data

Ivan's assessment records indicated that he achieved 100% for the recognition of 10cmx10cm symbols. However, further information cannot be extrapolated from Ivan's results. He required frequent hospitalization during the 10 week study and thus was unable to regularly attend the course.

Richard consistently recognised half of the 10cmx10cm symbols when they were presented singly and in short phrases. He correctly responded 55% of the time with single 10cmx10cm symbols. Richard experienced significant difficulty when the symbol size was reduced to 5cmx5cm and these symbols were placed in a 2 word phrase.

Douglas successfully recognised and responded using single 10cmx10cm symbols. However, regardless of the size of symbols he evidenced difficulty recognising and responding with symbols in a 2 word phrase.

Jason successfully recognised 10cmx10cm symbols in isolation. He experienced difficulty recognising symbols in a 2 word phrase. Further difficulty was evidenced by Jason when he was required to respond with a 10cmx10cm symbol. Due to these difficulties further assessment did not take place.

Belinda recognised half of the 10cmx10cm symbols presented. She experienced significant difficulty recognising symbols in a 2 word phrase. Insufficient assessment data was available regarding Belinda's ability to respond using symboled phrases to enable the researchers to extrapolate further information.

Matthew indicated no difficulty recognising and responding with 10x10cm symbols. However, the data provided did not enable researchers to extrapolate information regarding his ability to recognise and use symbols in phrases.

DISCUSSION

All participants in Group A excluding Peter and with the exception of Graeme showed the ability to recognize and respond to symbols of decreasing size. The print remained a stable size, increasing in prominence as the rebus size was decreased. Peter's limited amount of data is a result of his lack of attendance rather than an inability to cope with the assessment activities. However, Graeme's results indicate that he experienced difficulty when the size of symbols were reduced to 2.5cmx2.5cm and significant difficulties were experienced when symbol size was further reduced to 1cmx1cm. Thus, it could be proposed that for the majority of people in Group A the strategy of symbol reduction was a successful technique to facilitate their awareness of print. Informal records indicate that 3 of the 4 participants (John, David and Margaret) are reading familiar words and using a variety of strategies to assist with decoding of words. These individuals continue to require unfamiliar words to be symboled and frequently request this assistance from tutors.

Susan demonstrated a consistent ability to read and understand symboled phrases as rebus size decreased. Although having a strong motivation to read words and an awareness of their importance she has not yet developed substantial word recognition skills. Susan is however recognizing some names of familiar people. Henderson (1988) and Carpenter (1986) indicate that this is the first word recognition skill their students with an intellectual disability were observed to use. Susan has been observed to use the following strategies when reading symboled text: prediction, memory of events, awareness of sequence of print and text, awareness of the importance of the visual information obtained in the text necessary for task completion, knowledge and ability to request assistance to obtain meaning from text when she is unable to do this independently. Given these factors it could be suggested that Susan would eventually link into reading print. However, it has been noted that she experiences some difficulty with short term memory. For example, she has difficulty recalling pre-arranged times and dates and sharing information about previous events with the group. Susan has also indicated that she would have difficulty remembering Blissymbols. Her memory difficulties could be influencing the length of time taken to develop word recognition.

The difficulties experienced by Graeme when symbol size was reduced to 2.5cmx2.5cm suggest that he continues to rely on 5cmx5cm symbols to enhance the meaning of print. Although Graeme has a large receptive vocabulary based on rebuses he does not yet possess the strategies required to develop an awareness of print. For example, he requires a guide rectangle to enable him to follow the sequence of print and text because of his erratic scanning patterns and he requires reminders from tutors to read on to obtain further information which would enable him to complete a task. Graeme also has difficulty determining the essential elements of the text and his use of prediction is frequently ineffective. Although he is highly motivated to read print it is difficult to predict if Graeme will develop this skill as his living environment does not support the development of language or literacy skills. In addition, prior to attending TAFE, Graeme had received no formal schooling. It is important to note that for this individual although not currently using print alone he is able to carry out complex reading tasks using symbols. Furthermore, TAFE provides a supportive learning environment which is conducive to the continuing development of his communication, language and literacy skills.

Assessment results indicate that John showed a consistent ability to read and understand phrases regardless of the decrease in symbol size. However, informal records indicate that he experienced difficulties when the text determined his response. For example, when reading and following a recipe he required prompts to initiate the task and additional prompting to carry out the instructions. He also sought approval to commence reading activities and progress through each step of a task. John exhibits many characteristics of learned helplessness as described by Johnston and Winograd (1985). He has difficulty perceiving relationships between elements in a task. For example, when he reads recipes or directions he reads each symbol and word combination in isolation rather than integrating them into a meaningful whole. He does not spontaneously or effectively use strategies appropriate to the task as evidenced by his constant need for prompts to undertake a task. John also appears unaware of some of the strategies he does possess to facilitate his reading and does not effectively monitor his performance. This results in him having inaccurate perceptions of his success and failure. For example, when he perceives tasks to be too difficult he becomes distressed which inhibits his ability to select and use appropriate strategies. At these times the tutor is required to provide assurance that he does possess the appropriate information to complete the task and the support to attempt it. The pattern of passive learning exhibited by John would have been established and maintained in his living situation as he has lived in a residential centre for 10 years. This type of living environment may actively discourage initiation, independence, spontaneity, participation, interaction and problem solving.

A comparison of the results obtained from the assessment phases indicate a significant discrepancy between Group A and Group B. This discrepancy is indicative of individual differences, participants' prior experience with augmentative communication and symbol literacy, differences in the supportiveness of the learning environment, and the frequency of attendance at TAFE prior to this study.

All members of Group A with the exception of David had a minimum of six years experience with augmentative communication (signs and/or symbols). Although the implementation of augmentative communication systems was not consistent in all environments each person had at least one constant communication partner during this period. David had incidental exposure to signs and symbols through his experiences with other household members who were sign and symbol users and from displays of graphic daily planners. In addition, David had attended a special school for 16 years and thus had extensive experience with structured learning. In contrast, all members of Group B with the exception of Matthew had limited exposure to augmentative communication systems. The group members' use of augmentative communication ranged from a period of 4 months to 18 months (mean = 8.4 months). Matthew had both extensive schooling and augmentative communication use at a school for the deaf.

One of the most striking differences between the groups is that the vocabulary of Group B is highly personalised. Due to Group A's extensive experience with symbol literacy the highly personalised vocabulary was no longer a primary focus.

Blackstone (1988) states that vocabularies of augmentative and alternative communication users are comprised of a list of core words which occur frequently and may have some universal utility and fringe words which are necessary for a particular individual in particular circumstances. Fringe words are often dictated by an individual's activities, interests, environment and personal style. Core words include many structure words such as articles, pronouns, prepositions, auxiliary verbs and interrogatives—words that provide the framework for language. Upon examining the vocabulary lists for the two groups it is obvious that Group A members had a well developed fringe vocabulary and were developing their use of core words. The focus of implementation for Group B was on the development of knowledge and use of fringe words. When core words were introduced for Group B they had limited success in the recognition and use of these words. According to Smith (1992) Group B's results would suggest that these users have insufficient personal resources to cope with the core vocabulary. These resources would include exposure and experience with the vocabulary, motivation to use the vocabulary and restricted learning environments. Thus, the task of reduction of symbol size for this group was premature as they had not yet developed extensive recognition and use of symbols and print.

Prior to commencement of this study Group B had attended TAFE for a significantly shorter period of time (mean = 0.9 semesters) than Group A (mean = 3.16 semesters). In addition, during this time Group B had participated in 1 session per week and Group A had attended two sessions per week. It is considered that this difference in attendance had a major impact of the results obtained in this study. Group B had commenced the project with significantly less exposure and experience with augmentative communication, language and literacy use and the TAFE learning environment.

Group B had the added disadvantage of not having an appropriate room allocated to them at the TAFE campus. As a result their sessions took place in a student common room where their privacy was not ensured and constant interruptions to their lessons occurred. There was also a difference in the status of students in the two groups. Group A were enrolled students of a TAFE campus and received the same services as other students. However, Group B were not enrolled students, although the tutors had attempted to achieve this status. This impacted on their ability to use facilities conducive to learning.

It could be suggested that Group B do not possess sufficient pre-requisite skills to benefit from participation in a symbol literacy course. However, Kangas and Lloyd (1988) have indicated that the need for pre-requisite skills to be present prior to an individual participating in a program is not a valid assumption. Duffen (1976) indicated that literacy skills can be used to develop the language and communication skills of students with severe communication impairments. Thus, for individuals in Group B the primary focus for intervention should be on developing communication, language and literacy skills. This approach emphasises the interdependence between communication, language and literacy and reduces the emphasis on the need for pre-requisite skills.

No formal records of the students' use of the computer were kept. However, informal records indicate that all students benefited from the use of the computer. Members of Group A showed improvements in problem solving and turntaking and appreciated the immediate and permanent recording of their text and the independence provided by this teaching tool. It is anticipated that the continued use of the computer will further enhance the student's writing skills thereby extending their expressive language skills. Participants in Group B also showed improvements in attending behaviour, eye contact, problem solving and other social communication skills such as turntaking. Developments in this area would provide additional topics for research.

During the course Group A had extensive practice in writing words and connected text. Writing tasks frequently involved creating a story from a picture, cartoon or TV cartoon. Tutors recorded each story and individuals copied the text they had created. Over time the stories created by the individuals became longer in length, linguistically more complex and novel concepts were introduced. Informal records show that the quality of the students' writing improved during the course. The number of errors in their writing decreased significantly. For example, spacing between letters and words improved, the form of the letters became clearer and individual's ability to complete the task independently improved.

At this time two individuals from Group A could be integrated into a mainstream TAFE literacy course with appropriate tutor support. The remaining 10 individuals continue to require varying levels of symbol support. It could be proposed that over time the individuals' dependence on symboled print may decrease enabling them to be integrated into similar mainstream literacy courses. It is not easy to determine how long this process may take although it is obvious that the time required will far exceed that which is usual for TAFE literacy courses. This poses many problems namely the undue focus that TAFE now has on vocational literacy skills which would exclude the participation of all of these individuals and negate the achievements made in this project. Without the facilities and resources provided by TAFE these individuals would not be able to participate in an adult literacy course as no other agency provides the necessary financial and resource support for people with disabilities.

CONCLUSION

This study investigated the use of symbols to enhance the reading skills of 12 individuals who have an intellectual disability. The use of the technique of symbol fading is also reported.

The strategy of symbol fading was not successfully used with Group B. It is suggested that this lack of success can be attributed to the lack of personal resources possessed by these 6 individuals. Thus, it is felt that these individuals continue to require symbols to enhance print. Individuals from Group A experienced different levels of success using the symbol fading strategy. John, David and Margaret were able to successfully use the strategy of symbol fading to facilitate their awareness of print. These 3 individuals are reading familiar words and using a variety of strategies to assist with decoding of words. Susan although unable to read print alone by the end of the project, used 0.5cmx0.5cm symbols to enhance the text. Graeme continues to require the text be enhanced by symbols and their size needs to be greater than 2.5cmx2.5cm for him to read successfully. The results of this study indicated that all subjects completed tasks that they would have been unable to do had these tasks been presented in print alone.

The teaching strategies emphasised the relationship between communication, language and literacy learning. The teaching activities and vocabularies were different for the two groups due to the differing experience of the two groups. Group A had more extensive experience both as users of augmentative communication and in symbol literacy activities. Group B as well as having significantly less experience as augmentative and alternative communication users had been involved in a symbol literacy program for a significantly shorter period of time. In addition, the frequency of attendance at TAFE prior to the project was less. Participants in Group B were also disadvantaged by the instability of their learning environment. Considering Group B's limited experience as augmentative and alternative communication users, their reduced exposure to symbol literacy and their difficulties in maintaining attention, this unstable learning environment would have impacted greatly on their ability to learn.

The changing focus of TAFE colleges from educational environments to vocational training centres has major implications for these learners. All individuals who participated in this study showed the ability to learn new skills although the time taken to acquire these skills varied. All participants required a longer time to acquire these skills than someone without a disability. For these individuals TAFE provided an opportunity to learn skills that they could not achieve in other environments. However, these skills are educational rather than vocational in nature. To focus on vocational training would exclude these individuals from TAFE courses and would deny them the right to education. These individuals continue to require an educational environment and to focus solely on vocational training would negate the fact that communication, language and literacy skills transcend all other skills.

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A REPORT ON AN ADULT LITERACY TUTOR TRAINING PROGRAM FOR CAREGIVERS/SUPERVISORS WHO WORK WITH ADULTS WITH MODERATE/SEVERE INTELLECTUAL DISABILITIES AT ROCKHAMPTON COLLEGE OF TAFE

BOBBY HARREVELD

OVERVIEW

This report comprises six sections. The first section, the Introduction, describes the principles and objectives of the tutor training program. In section two, the course content, comprising each of the ten sessions, is outlined with specific learning objectives, teaching procedures and relevant materials listed. The evaluation of this program is discussed in section three. Tutor characteristics, their recruitment and work in multi-disciplinary groups are discussed in section four. In section five, recommendations have been made with regard to future training programs, materials development, trialling in other contexts together with cautions for any future implementation of such a program. The report concludes in section six.

INTRODUCTION

This Tutor Training Program was an integral part of a research project which sought to develop a set of operating principles for the provision of Adult Literacy programs for people with intellectual disabilities (moderate to severe). Caregivers and supervisors of adults with such intellectual disabilities had approached the TAFE College, requesting that they be included in our Adult Literacy Tutor Training Program. There was no such tutor training program focusing specifically on adults with intellectual disabilities. A review of relevant literature together with action research and ethnographic research methodologies guided the development of the operating principles as they emerged from the events of the Tutor Training Program (Harreveld, 1991).

The American Association of Mental Retardation has defined intellectual disability as "significantly subaverage general intellectual functioning existing concurrently with deficits in adaptive behaviour and manifested during the developmental period" (Grossman, 1983, p. 1). The adult clients cared for by the caregivers and supervisors do have varying degrees of intellectual disability as defined above. There were only two entry criteria for would-be tutors. The first was their willingness to participate in this research and the second was their access to adults with intellectual disabilities. This latter criterion was necessary to enable the tutors to complete the practicum component of the program. It was also this latter criterion that determined which adults with intellectual disabilities were chosen to participate in the literacy programs. The clinically assessed degree of intellectual disability was never an issue for the caregivers and supervisors. The clients with whom these caregivers and supervisors worked with have previously been assessed as having moderate to severe degrees of intellectual disability.

PRINCIPLES

A key assumption in the development of this Tutor Training Program was the belief that caregivers and supervisors could become tutors of literacy. It was also believed, that to actively participate in learning, clients have the right to expect caregivers/supervisors who will facilitate such participation. An anticipated outcome of the tutor training program which formed the focal point of the research was the teaching of caregivers/supervisors to become tutors of literacy who will serve as "both trainers and enablers, working within the person's natural environment" and clients who acquire "relevant behavioural skills, thereby becoming more productive, self-sufficient and community integrated and experiencing an enhanced quality of life" (Schalock, 1987, p.9).

Adults with intellectual disabilities use both verbal and non-verbal language to communicate with others in their social system. In many instances this communication is receptive not expressive. For example, a client's use of the receptive language skill of listening (to another person) is not able (for a variety of reasons) to be followed by the same client's use of the expressive language skill of speaking. Thus the client just listens (receives the message), but does not take control of the communication act and respond (expressive mode). A second example occurs when a client looks at a magazine and uses the receptive language skill of reading to "read" the pages of the magazine. "Read" in this instance may range from reading the words on the page to scanning the pictures on the page. However, the client is not able (for whatever reason) to respond to the text or pictures of the magazine by using the expressive language skill of writing. Yet again, the client receives information but does not have the "tools" which give the power to express a desired response to the communication. As enablers, the tutors' (caregivers/supervisors) role is to facilitate clients' abilities to engage them in expressive communication.

Thus adults with intellectual disabilities were actively encouraged, via explicit modelling and teaching, to use language appropriate to the various roles they fulfil in society. The adult clients who worked with tutors in this training program were consumers of service providers, colleagues, sons, daughters, sisters and brothers within culturally determined groups in our society. As such, these literacy programs addressed the problems of clients' specific needs, of their communication with significant others within their social groups and of the attitudes that others (including the tutors) had towards them.

The adult clients who tutors worked with have been found to use language to learn about and interpret their world; to make their presence felt in the development of their roles and relationships within specific societal contexts; and to create and organise text (oral, written or symbolic) relevant to these specific contexts within society. The tutors' task was to recognise this and facilitate the development of clients' language in meaningful, socially valued contexts.

It is therefore suggested that this principle of language in use is complementary to current trends in the theory and practice of service provision for people with disabilities. The goal of such services has been based upon the principles of social role valorization (Wolfensberger, 1983). If all service provider employees value the role of each person in society, the quality of life for each person with intellectual disabilities will be enhanced. In his explanation of this concept, Schalock (1987) paraphrases Seneca (AD 63), "The blessing is not in living (in the community), but in living well (in the community)" (p.1). The main goal of both caregivers/supervisors of agency providers and teachers/tutors of literacy is thus identical.

OBJECTIVES

The purpose of this Tutor Training Program was to develop a literacy program for adults with a moderate/severe intellectual disability through action research, using the caregivers and supervisors and informed communication. The caregivers and supervisors conducted literacy programs with a group of five adults with moderate/severe intellectual disabilities.

Given the purpose of this program and its specific focus, the following objectives were developed:

(a) To train caregivers and supervisors to tutor in a literacy program for their clients.

(b) To facilitate the development of individualised literacy programs for adults with intellectual disabilities.

(c) To facilitate the implementation and initial evaluation of these individualised literacy programs.

COURSE CONTENT

When conducted as part of the research project to "Discover the Teachable Moments" (Harreveld, 1991), the course comprised ten (10) class sessions over a period from October 2 to November 13, 1990. Each class session was intended to be of two hours duration. In practice, it was found that if a coffee break is to be included, two and a half (2

1/2) hours is a more realistic time to allow per session. Fifteen (15) hours of practical activities are allowed for the purposes of observation, program planning, implementation and evaluation with clients and colleagues. Thus this course could be completed in approximately forty (40) hours.

This section of the report contains teaching notes, resources used (where appropriate) and extracts from the teacher/researcher's journal kept throughout the life of the research project (Harreveld, 1991).

SESSION 1

INTRODUCTION, COURSE INFORMATION, IDENTIFICATION PHASE

Learning Objectives

At the end of this session, tutors will have …

1. A knowledge of the title, purpose, specific focus and structure of the tutor training program.
2. A knowledge of their fellow tutors' (and the teacher's) names, work situations and reasons for coming to this tutor training program.
3. Identified their understanding of the terms "language", "literacy" and "communication".

You will need:

- Course Outlines (hole punched ready to put in folders). All handouts throughout the program were prepared in this manner.
- One A4 2 ring binder per tutor
- Butcher paper
- Felt pens
- White/blackboard + pens/chalk
- Plain lined A4 paper (approx. 12 sheets per tutor)

PROCEDURE	*MATERIALS*
1. Introduction	
- Introduce self to class, giving brief background of personal and professional interest in this area.	
Overview:	
- Session's Activities to be written in note form on butcher paper prior to class commencement.	
- Tape or pin up and discuss briefly with the tutors so they know where they will be going and why.	
- Negotiate any changes if necessary and record on the butcher paper sheet.	
- Distribute folders. Point out they are now tutors' property.	A4 ring binders

2. Course Outline

Handout

- Handout course outlines
  1.1: "Course Outline"
- Discuss the purpose and specific focus of the program with tutors.
- Clarify any misconceptions, problems at this stage.
- Discuss the structure of the program, including dates and times.
- Clarify any concerns and negotiate any changes necessary.

3. Meeting each other

By now, tutors should be feeling at ease with the surroundings and the teacher.

- Time to introduce themselves to each other, following the lead of the teacher at the beginning of the session. (Teacher to facilitate this sharing)
- Upon conclusion of the introductions:

Break for 15-20 mins. (Especially important on this first night for people to get to know one another and the teacher).

4. Identification Phase

You've identified your reasons for being here tonight. There are a number of words that we all seem to be using quite frequently in our discussions so far. They are "language", "literacy" and "communication".

Butcher paper

- In groups of 3, clarify your understanding of each term.

(NB: It's important to have a method of recording the results of all discussions as they have to be typed, photocopied and ready for tutors at following sessions)

- Elect a speaker to share your group's thoughts with the class.
- As each speaker reports, teacher records replies on a Summary Sheet of butcher paper.
- Final check: "Is this what we mean by these terms?"

5. Closure

- Refer to Course Outline pointing out that the Identification Phase will continue in Session 2. Remind tutors that the Summary Sheet will be available for each person.

TEACHER'S REFLECTION

Journal Entry: Morning of 3.10.90 … They (students/tutors) are all very switched on to language/communication/literacy/ context etc. … Another unplanned positive is the clustering of tutors in employment groupings. Spin off is on-going review and reflection - in the work place - commitment - (can see negatives if disenchantment sets in - could spread like wildfire). D. mentioned that they were all talking about it at work yesterday.

SESSION 2

COMMUNICATION SKILLS

Learning Objectives

At the end of this session, tutors will have...

1. Reflected upon their past and present experiences with language and learning.
2. Identified language skills used by their clients.
3. Identified the reasons for clients' use of these language skills.
4. Tentatively identified the contexts in which these language skills are used.
5. Reflected upon their understanding of key terms.
6. Discussed the process of communication.

You will need:

- White/blackboard + pens/chalk
- Overhead projector
- OHT pens
- Overhead Transparency: 2.A "The Process of Communication"
- 6 sheets butcher paper + pens
- Adhesive tape and/or thumb tacks to hold butcher paper up
- Handouts:

2.1 Summary Sheet from Session 1

2.2 Article for reading - Treloar, A. (1989) Why do I do it? Theory into Practice, *Good Practice in Adult Literacy, 3*, 1-3.

PROCEDURE	*MATERIALS*
1. Overview (As per Session 1) Ice-Breaker: "Memory Lane" In the first session, we were talking about language, literacy and communication. This tutor training program is also about learning. Q: What can you remember about learning, and language learning in particular, when you were at school?	Butcher paper on wall to record responses.
2. Responses from last Session - Hand out the summary sheets - Teacher ask if there is anything they wish to add after reflecting for 72 hours.	Handout 2.1

3. Building up Student Profile

4 sheets of butcher paper and 1 felt pen

Have the following questions already written on separate sheets of butcher paper. Pin the paper up around the room. Answers from the group will be written in under each question.

Q: What language skills do your clients already have?

Q: Which skills do they use all the time?

Q: Which language skills do they use now and then?

Q: For what purpose/s do they use these language skills?

- Tutors to work in pairs. When they have answers to contribute, they write their answer on the appropriate question/answer sheet of butcher paper.
- Upon completion, teacher facilitates the sharing of answers from the sheets of butcher paper.

Q: Are there any teachable moments observable at this stage?

- Discuss the concept of "teachable moments". Explain that this will be one of the things we will be looking for in observations.

4. Teacher Input

Prepared sheet of butcher paper

- Discuss the concepts embedded in the quote on Two-way communication is a fundamental aim on the education of the handicapped child (Stevens, 1971, in Berry, 1976, p. 187).

Q: Stevens refers to a child, would the same hold true for an adult with a disability, specifically an intellectual disability?

Q: Why?

(Refer back to discussion in Session 1 and Summary Sheets. If necessary, use OHT's from that session again.)

5. Observation Skills

White/blackboard and pens/chalk: Task written on board.

- Tutor's task: Observe your clients during the next 2 days. Identify the language skills used. Identify the context/s in which the skills are used. Think - potential teachable moments?

6. Journal

Discuss the use of individual journals to record thoughts, events, discussions with clients throughout the training program. Show the tutors teacher's journal and entries so far.

7. Closure

Handout 2.2

Reading to take home. Point out that tutors may jot queries, comments in their journals for discussion at the next session.

TEACHER'S REFLECTION

Journal Entry: Memory Lane's an excellent activity for this group. Did in whole group with self as scribe. Then pulled together at end. The feeling of elation has abated somewhat, but can still see their eyes and faces as the penny dropped for each one. Did we go too far? No. Too fast? Maybe, but have built in the opportunity to go back.

SESSION 3

LANGUAGE ACQUISITION AND USE

Learning Objectives:

At the end of this session, tutors will have...

1. Participated in a focusing activity using the language skills of speaking, listening, reading and writing.
2. Clarified their understanding of what it means to be a tutor.
3. Clarified their understanding of themselves as learners.
4. Examined potential "teachable moments" within the social contexts of clients' lives and work.
5. Examined the average and non-average acquisition of language.
6. Compared and contrasted clients' acquisition of language and their observed use of language.

You will need:

- 1 piece of blank A-4 paper per tutor
- White/blackboard + pens/chalk
- Butcher paper + tape/drawing pins
- Overhead projector
- OHT pens
- Overhead transparency: 3.A "Conditions of Learning"
- Handouts:

3.1 Summary Sheet from Session 1

3.2 "Conditions of Learning" - A Schematic representation of Brian Cambourne's model of learning as it applies to literacy learning in Kelly, A. (1990). Helping adult beginning readers to improve, *Good Practice in Adult Literacy, 3*, 11.

3.3 Discussions Questions from:

Cambourne, B. (1990) Getting to the Guts of Whole Language in *Write On*, Q.C.A.L. *8* (1).

PROCEDURE	*MATERIALS*
1. Overview (As per Session 1) Icebreaker: “Shield” Activity	Blank A4
Purpose - Listening, Self Disclosure, Focusing on learning and teaching, thereby orientating tutors to the sessions’ issues. - Discuss how clients have been observed to “shield” themselves from the world and people in it. - Distribute paper, each tutor draw their preferred shield on the paper (make them large to take most of the page). - Divide your shield into 4’s (see example on the board) - In quadrant 1, write a word that describes a good tutoring quality you see in yourself. - In quadrant 2, write about your greatest learning experience, i.e., describe it. - In quadrant 3, write what you consider to be the greatest obstacle to your tutoring you perceive at this stage. - In quadrant 4, write about what you hope to achieve from this tutoring experience. (NB: Teacher to do this activity also) - Share all shields around the class on a voluntary basis only.	Teacher draw a shield on the board; divide the shield into quadrants.
2. Reports On the basis of your observations of clients so far, predict the “teachable moments” in which your literacy tutoring could take place.	Wall charts with butcher paper: “Teachable moments - When to do it”
3. Feedback and Reflection With reference to the article from Session 2, Q: What did you learn from this? - Class in small groups of 3/4 - Report back to whole class - Teacher scribe answers on sheet summary in their folder, next to the Handout 2.2.	Handout 2.2 Students take notes of article.
4. Linking prior and present knowledge - Distribute Handout - Focus on Question 4 on the second page (time does not permit all questions to be addressed in class time) - Students to work in pairs to answer the question - Each pair to report their thoughts to at least another two couples (teacher to move between the pairs/groups)	Handout 3.3

5. Brainstorming

Q: How do we acquire language?

Butcher paper and pens

- List all answers on sheet on board

OHT 3.A

- Teacher then discuss the conditions of learning which Cambourne believes facilitate the learning of language
- Revise "Communication" from previous session.

Q: How does this fit with what we know about the "average" acquisition of language?

Q: How does this fit with what we have observed with our clients' use of language?

Q: For adults with intellectual disabilities, what other things are relevant to note? Constraints? Possibilities?

- Record replies (in the form of a semantic web) on the butcher paper.

6. Language in Use

The four language modes used to communicate in the culturally determined social contexts of our world are speaking, listening, reading and writing.

Q: From observations to date, which modes could clients be encouraged to develop further? Why?

- Note replies on the same paper as No. 5 above.

7. Closure

Q: What "beliefs" do we have about language so far?

Butcher paper and pens

- As a model, teacher to articulate own beliefs and note on the butcher paper.
- Write tutors' responses on sheet of paper also.

TEACHER'S REFLECTION

Journal Entry: 9.10.90 "Shield" was a good activity, an introspective start. Was good as showed a contrast to Session 2's more upbeat session. Did I talk too much? There just doesn't seem enough time per night. RE: Structure of Practicum - definitely in work groups where possible, so can model the networking and group planning. Noticed that the tutors don't like writing - is it the nature of their jobs? 14.10.90 Am worried - nothing in any Tutor Training Program helps them directly as is too high a level for clients. Lots to be adapted BUT if is not appropriate to their clients, they won't accept - just say people "don't understand"! See: DSA (Disability Services Act, 1986) - Rights and Responsibility section; Halliday (1985); Corder (1973) ... It's obvious that the most highly trained professionals see the clients least.

SESSION 4

PLANNING

Learning Objectives:

At the end of this session, tutors will have ...

1. Recognized the importance of speaking as an expressive mode of communication.
2. Begun to analyse clients' language needs to achieve meaningful communication within their social contexts.
3. Articulated tentative goals for clients' literacy programs.
4. Planned data gathering procedures (for ongoing analysis and program planning).
5. Described each client who decided to participate in a literacy program.

You will need:

. Overhead projector

. Blank overhead transparencies

. OHT pens

. Overhead Transparency: 4.A "No Speaking!"

. Butcher paper + felt pens

. Blank VHS video tapes (1 per client)

. Blank audio-tapes (1 per client)

. Portable video camera/s

. Audio tape recorders

. Teacher's Journal

. Handouts:

4.1 Blank Weekly timetables

4.2 "Compensatory Approach" - as discussed in a paper presented on behalf of consultants with TAFE, NSW, at the Australian Council for Adult Literacy's 12th National Conference in Brisbane, 1988.

Clear, M., & Green, J. (1988). Practical Literacy for Intellectually Disabled Adults, *Literacy for Living*, ACAL, 40-45.

PROCEDURE	*MATERIALS*
1. Overview (As per Session 1)	
Ice-breaker: "No Speaking!"	Blank OHT and pens
This is an experimental activity. Tutors will experience the frustrations encountered when one of the communicative modes is denied them. In this instance, they will not be allowed to speak to the teacher. All communication must be via the written mode. They are free to speak and listen to each other, and the teacher will of course listen to the class' comments so as to know when to stop the "experience".	
- An example of the activity as it could evolve is available on OHT 4.A	
2. Needs Analysis	
- Tutors in their work-based groups.	Butcher paper and pens per client per group
- Specific clients have been asked to participate, appropriate permissions sought where necessary and all decisions finalised by this session.	
Q: From observation, what has been found already about the client's behaviour, environment, language use?	
Q: What are your client's intended learning outcomes? (from discussions so far)	
- Write client name at top of individual sheets of butcher paper.	
- List answers on sheet of paper	
- Put sheets of paper up around the room	
3. Reading	
Tutors working individually:	
- Read the article on the "top-down" approach to literacy teaching with people with intellectual disabilities.	Handout 4.2
- Highlight/underline key words, concepts.	
- Look at client information on sheets around the room. In the light of what tutors have just read, tell them to add anything else they now think should be considered, to the lists.	
Whole class:	
- Read each client information sheet in turn	
- Teacher facilitate any further sharing, summarise the "who" and "why" and "what" information collected so far. The next section will concentrate on the "when" - the "teachable moments" in the lives of the clients when literacy teaching may take place.	
4. Timetables	
- Distribute blank timetables	Handout 4.1
- During the coming week, tutors are to pencil in the times they think they'll end up using with their clients for the program implementation.	

5. Closure: Data gathering and Visits
- Arrange visiting times to see tutors at their workplaces.
- Arrange for sharing of video cameras and tape recorders between tutors (for gathering of data for program planning).

Audio and video taping materials listed above

TEACHER'S REFLECTION

Tutors did their own recordings - 3 video and 2 audio - as the discussion at this point in the session led us to the conclusion that even though I knew them, the clients didn't know me well enough, over a long enough period of time. Another reason for the decision was the potential for disruption amongst the whole group of clients. Every time I go to one of the group settings, every client wants to say hello as I'm someone "new" to get to know all over again. In hindsight, I believe this to be the correct decision. As noted in the research project report, all relevant permissions were gained prior to taping. Tutors shared their recordings willingly with the class during Sessions 9 and 10. They took responsibility for their own learning.

SESSION 5

PROGRAM DESIGN

Learning Objectives:

At the end of this session, tutors will have...

1. Discussed the implications for teaching and learning, from the sessions so far, for adults with intellectual disabilities.
2. Practised writing aims and objectives for their literacy programs.
3. Applied their knowledge gained from No.2 above to the articulation in written format of clients' draft literacy programs.

You will need:

. Handout:
5.1 List of "action" verbs
. Butcher paper (1 sheet per client group)
. Felt pens + tape/drawing pins
. Tables and chairs arranged in the room for small group work
. Overhead projector
. Overhead transparency:
5.A Model for Writing Objectives

PROCEDURE	*MATERIALS*
1. Overview (As per Session 1)	Butcher paper and pens
2. Review	
- Discuss the "Implications for Teaching and Learning" that tutors see emerging from their experiences in the four sessions so far. Have tutors in groups of three. Each group's reporter to write their findings on the sheet.	Butcher paper summary
3. Planning	
Q: How do you go about planning in your work situations?	
Q: What do you write down?	
Q: What do we, as a group, understand by an "Aim"?, a "Goal"?	
Q: What do we, as a group, understand by an "Objective"?	
- Note answers and then check via active listening if they are as the group intended.	
- As a whole class exercise, write an Aim or Goal for a Client Focused Literacy Program.	
- Discuss the elements of an objective with reference to tutors' answers so far and the overhead transparency.	OHT 5.A
- Break up into your client focused groups (those people on their own, form a "clients focused group").	
- Those who have preliminary data gathered from participant and non-participant client observation, would share that within the group.	
4. Writing a Literacy Program	
- while still in the groups in No. 3 above, tutors write an Aim for their program, using the class generated one as a model.	Butcher paper and pens per client
- Tutors write an objective for their program, using the OHT 5.A as a model.	
Q: How can this objective be achieved?	
- Tutors analyse the processes which may be necessary to achieve the objective. This will include a skills analysis; social and cultural contexts in time and place.	
Q: How will you know if this objective has been achieved?	
- Tutors discuss monitoring techniques and performance indicators with teacher.	
- Write tentative performance indicators in line with methods used in their respective work places.	
Q: What resources will you need to implement these programs?	
- Tutors discuss and write down a preliminary resource list.	
5. Closure	
- Tutors "visit" each other's tables and read each draft program plan, giving verbal feedback to the authors.	
- Tutors take their butcher paper sheets with the draft programs home. Where appropriate, one tutor ensures that it will be displayed at work during the next week for discussion and critical response.	

SESSION 6

FINAL PLANNING FOR INITIAL IMPLEMENTATION PHASE

Learning Objectives:

At the end of this session, students will have …

1. Examined the data gathered by tutors on audio and video tape.
2. Articulated distinguishing features of their clients.
3. Articulated distinguishing features about themselves.
4. Critically assessed their programs written during Session 5.
5. Discussed the monitoring techniques and their place in program planning, implementation and evaluation.

You will need:

. Audio tape of 1 client's reading and discussion with caregiver

. Video tape of 1 client at an Activity Therapy Centre

. Butcher paper + pens

. Tape, drawing pins

. Tape recorder/player

. Video player

. Handout:

6.1 "Implications for Teaching and Learning" (from Session 5)

PROCEDURE	*MATERIALS*

1. Overview

- Session's Activities to be written in note form on butcher paper prior to class commencement.
- Tape or pin up and discuss briefly with the tutors so they know where they will be going and why.
- Negotiate any changes if necessary, and record on the butcher paper sheet.

2. Ice-breaker: Name Alliteration

Use an adjective to describe a facet of your personality/ behaviour. The adjective must begin with the same initial sound as your first name, e.g., Fabulous Phil/ Gregarious Gail/ … .

Each person in the group must repeat all those name alliterations that have gone before, then add his/her own.

As the group knows each other better by now, this activity is not threatening. Tutors enjoy testing their perceptions of themselves against their fellow tutors' perceptions of themselves.

3. Review of Week's Activities

Using the data gathered, this will be a question and answer session, with discussion recorded on a separate piece of butcher paper for each activity.

Q: What is happening here?

Tape and video players

Butcher paper sheets and pens

4. Know your Client

Individual writing activity.

- Write a description of your client.

Collect descriptions and share between tutors.

5. Know Yourself - Let your Client Know You

Individual writing activity.

- Write a description of yourself - as YOU think you are and as you think your client sees you.

Collect descriptions.

Teacher read out descriptions to class. Tutors "guess" who each person is. Perception!

6. Program Plans Revisited

- Look at your summary of the implications for teaching and learning together with your draft literacy plan from last week.

Handout 6.1

Q: What is the main language focus?

Q: What is the context? Subject matter? Roles and relationships of the participants? Mode/s of communication?

Q: Monitoring techniques and performance indicators?

Q: Realistically, can this program be implemented with this client? Constraints? Changes necessary?

- Add results of discussion to individual program drafts.
- Ask tutors' permission to take copies of draft plans to next consultants' meeting.

7. Closure

Review this session's activities.

Overview chart

- Keep original draft programs, check all aspects mentioned in No. 6 above during this next week.

TEACHER'S REFLECTION

Potential problem - individual differences because of tutors' work situations, affecting program implementation e.g. shift work which relies on caregivers who are not participating in this tutor training program...

SESSION 7

EVALUATION OF INITIAL IMPLEMENTATION PHASE

Learning Objectives:

At the end of this session, tutors will have ...

1. Revised their individualised literacy programs
2. Compared each of the programs
3. Participated in a guided practice activity

You will need:

- White/blackboard + pens
- Handouts:

7.1 Session Summary - Descriptions of Clients

7.2 Article for reading - O'Callaghan, C. (1989) Growing with the Intellectually Disabled, *Good Practice in Adult Literacy, 4*, 10-12.

PROCEDURE	*MATERIALS*

1. Overview (as per Session 1)

2. Data Collection continued

Tutors are still refining their programs in the light of further observations and initial implementation.

- Discussion and sharing of findings with class.

Q: What do you now consider to be the strengths of your program? Weaknesses?

Q: Have you adequately catered for the client's control of the learning situation in the program?

3. Modelling of Theory in Practice

Guided practice with whole class of a language experience activity, using ...'s experience with Pauline (pseudonym). This client is of a higher level (moderate). These clients had not been specifically addressed to date, because the problems with those with a severe intellectual disability were so overwhelming.

Teacher outline the following process on the white/ blackboard and discuss with tutors.

Teacher controls the time limit for each step of the process, stopping and moving on to the next step when appropriate. Stop the activity for "time out" if tutors wish to discuss any aspects.

- Tutors work in pairs, calling themselves A and B respectively.
- Setting the Scene: A is the client; B is the caregiver.
- A and B talk about the day's events, and future/past happenings in A's life.
- B assists A in deciding on the purpose for (in this instance, for the purpose of modelling) writing, and the topic.
- A recounts the story verbally and B transcribes, using dark felt pen to assist in later tracing.
- B reads back the story to A; they read together.
- Client A traces the story into a special book, with B's assistance.

- A and B read the story together. Reverse the roles - A is the tutor; B is the client. Repeat the process outlined above.

Discuss variations possible on this activity.

Discuss the advantages and disadvantages of transcription.

4. Implementation and Monitoring
- Continue implementation phase. Don't forget to record your thoughts and feelings in your journals.
- Bring the resources you're making or tell us what you're thinking of making next week.

5. Closure

- Distribute Summary sheets from last session	Handout 7.1
- Distribute reading for this week.	Handout 7.2
Review this session's activities.	Overview

TEACHER'S REFLECTION

Consultants' meeting (8.11.90) discussed each of the programs. Have the notes from this discussion ready to stimulate initial discussion during Sessions 9 and 10.

SESSION 8

PROGRAM ANALYSIS, REVIEW AND REFLECTION

Learning Objectives:

At the end of this session, tutors will have ...

1. Identified strengths and weaknesses of program implementation so far.
2. Reviewed a program in actual practice.
3. Reassessed individualised programs following reflection from No.2 above.
4. Arranged details for consultants visits in Sessions 9 and 10.

You will need:

- Clients' individualised program plans
- Video player
- Video tape of literacy session with teacher/tutor and client (e.g., Brenda and Phillip)
- Butcher paper + pens
- Phillip's books and pads from his literacy sessions
- Quinn, P. (1990) *Phillip's Life Story*. Unpublished. Sponsored by the Rotary Club of Yeppoon, Queensland.

PROCEDURE	*MATERIALS*
1. Overview (as per Session 1)	
2. A "Real-Life" Program	
- Introduce the video	Video tape and player
- Show the video of Brenda with Phillip right through to the end. Brief discussion	
- Go back and watch again, pausing at key points for in depth discussions.	
- Handout Phillip's workbooks and pads. Note that they are allowed to be viewed only with Phillip's express permission having been sought first.	
- Read Phillip's Life Story. Discuss its production.	
- Tutors pose questions, Teacher answers. General class responses to video and books.	
3. Evaluation	
Evaluate program implementation to date. Q: What is going well? What not so well? Why? Q: What have you found out about your learning and teaching practices?	
No written evaluation, only oral at this stage.	
4. Planning for Sessions 9 and 10.	
Six consultants have committed themselves to attending these sessions (3 per session).	
Discuss the procedures for each session with tutors.	
5. Closure	
Review this session's activities.	Overview chart
Confirm visiting times at Activity Therapy Centres.	

SESSION 9

INDIVIDUAL CONFERENCING

Learning Objectives:

At the end of this session, tutors will have ...

1. Shared their literacy programs with consultants.
2. Critically analysed their programs.
3. Formulated modifications and/or improvements to their programs where appropriate following consultation and negotiation with consultants.

You will need:

. Three (3) Video players
. Video and audio tapes of clients participating in their literacy programs
. Two (2) Tape players/recorders
. Butcher paper + pens
. Tutors to bring their individualised literacy programs
. Tutors to bring those resources prepared so far (Makaton books for signs and symbols; photograph album + client's personal photographs; communication board; kindergarten paper chart of Christmas carol for concert; clients' "reading" books of dictated personal recounts).

PROCEDURE	*MATERIALS*
1. Overview (as per Session 1)	
2. Individual Conferencing Groups - Break up into "client-based" groups, 1 per consultant. Each consultant to visit 3 groups if possible in the time allowed. Tutor's tasks: Tell the consultant about your program and client. Use the tapes to assist. Write down all feedback comments from the consultants. Analyse the strengths and weaknesses of your program.	All materials listed above
3. Reporting to Whole Group Discussions continue through the coffee break, then all come together for reports. For the last 45 minutes of the session, tutors share their findings with the group. Consultants give a brief report of their findings. - Teacher to facilitate, recording comments for next session.	Butcher paper and pens

SESSION 10

GROUP CONFERENCING

Learning Objectives:

As for Session 9

You will need:

The same materials as per Session 9.

PROCEDURE	*MATERIALS*
1. Overview (as per Session 1)	
2. Group Reporting - Each group to present an oral up-date on the current progress of their program's implementation. - Tutors use the audio/video tapes to assist in their presentations. - During each presentation, input from the previous Session's consultants to be synthesised by tutors. - The consultants invited to this session may request clarification during these presentations.	As per Session 9

3. Consultants' Feedback

- Each consultant provides feedback to each of the tutor groups in turn.

Teacher to facilitate this process.

4. On-going Planning

Q: Where to from here?

Tutors to articulate action plans for further literacy program development with their clients. Consultants to advise also.

5. Closure

Review this session's activities.

Review this tutor training program's aims and specific objectives.

COURSE EVALUATION

The effectiveness of the tutor training program has been evaluated according to the criteria (as indicated by each subsection below), using the qualitative methods discussed in the report of this research project (Harreveld, 1991) and the first section of this report. The criteria for evaluation are based on observable program outcomes. If these outcomes can be seen to have been achieved, then the program will be considered to have been effective.

TUTORS' COMMITMENT TO THE PROGRAM

This criteria looked at tutors' use of time management in course attendance, program planning and implementation (and evaluation). A weakness of the training program which only became evident towards the end of the training itself was an assumption on the part of the teacher/researcher that the tutors were very familiar with the principles and objectives of the Disability Services Act and the implication of these for literacy program provision. This link should have been made more explicit. More time during Sessions One and Two could be set aside for this in future tutor training programs.

OBSERVABLE COMMUNICATIVE COMPETENCE

All clients demonstrated some improvement in their use of language skills to communicate with those in their social systems. Each tutors' observation has been checked (1) with other tutors from the work group (the average was two other colleagues per observation); (2) with relevant, project consultants who worked with the client/s; (3) with transcripts of tape recordings from Session 9 and 10's feedback activities; (4) with teacher/researcher's observations as noted in the journal; and (5) with all tutors yet again, following the December/January holiday period.

CONCEPTUAL COMPETENCE

Tutors identified the knowledge, skills and attitudes they needed to access in order to conduct literacy programs. It is acknowledged that this depth and breadth of conceptual understanding takes time to develop and grow. Again, the constraints of this training program did not allow for the development of these conceptual links over time. As such, because it cannot be disproved, the evidence would suggest that not all tutors involved clients as autonomous learners. Analysis of data collected could not confirm that all clients were organisationally integrated as equal partners in all moments of the literacy programs as intended by the teacher of the tutor training program. Future training programs must address this issue of demonstrated conceptual understanding on the part of tutors by their ability to transfer such knowledge and understanding to practical programming situations. This outcome from the tutor training program could be used to develop further training programs for teachers and tutors to work with adults with intellectual disabilities.

NETWORKING MULTI-DISCIPLINARY GROUPS

This criteria is discussed extensively in the first report (Harreveld, 1991). The multi-disciplinary group (consultants, teacher, tutors) was found to function as a self-help group, familiar with the client and his/her learning contexts. As members of a multi-disciplinary team, adult literacy teachers and tutors were found to need certain knowledge, skills and attitudes to provide effective programs for their clients.

ADULT LITERACY TEACHERS

We learnt the importance of having a number of teachers, with at least some of the necessary knowledge and skills together with all of the necessary attitudes, planning cooperatively.

LEARNING FOR THE FUTURE

A major weakness of the tutor training program was the lack of emphasis on the documentation of effective teaching strategies to achieve program goals and specific objectives. Tutors were encouraged to use a journal as a tool for ongoing documentation of effective and noneffective teaching strategies. Only three of the eleven tutors who finished the course kept a journal. The teacher's journal notes confirm the unwillingness of tutors to write extensively during class sessions. Tutors preferred to talk, rather than write. As teacher/researcher this presented a problem. The training program was designed to model the processing skills of consultation and negotiation with a whole language framework. As teacher, it would have been inappropriate to have demonstrated otherwise.

In attempting to answer the question, "How do we facilitate clients' learning?" tutors came up with an extensive list of strategies. This list was collated from class discussions during Sessions One to Four and redistributed to tutors to be used during program planning. A weakness of the tutor training program is that yet again, time constraints did not allow critical reflection of this list in the light of individualised program implementation.

TUTORS

Characteristics

As stated in the first report (Harreveld, 1991), tutors ranged in age from 22 to 53 years. There were 2 males and 9 females. Their occupations were as follows: Residential Care Officer (3); Caregiver/Supervisor (6); House Parent & Volunteer Friend (1); Part-Time TAFE Teacher (1) (see Table 1). Tutors brought to the program not only their own emotional and perceptual "baggage", but also perceptions and preconceived ideas of the value and learning abilities of the clients they were intending to work with as learners. For this reason, all sessions of the tutor training program were designed to encourage tutors to articulate and share this "baggage" in a supportive environment which would encourage critical reflection of beliefs, attitudes and value systems.

Recruitment

Tutors could be recruited from any of the occupational groupings mentioned above, together with the parent/teacher groups referred to in the following section of this report. This research-based tutor training program was only advertised by "word-of-mouth" within the tutors' occupational contexts. From verbal feedback within the local community, recruitment of potential tutors would be neither difficult, nor expensive. It is important to note however, that this program was free for tutors, there were no fees or charges levied because the course code (CNF70) ensured it came under BEVFET Policy No. 14, p.6, which was effective at the time of the program's implementation.

Tutors, consultants and multi-disciplinary "self-help" groups/teams

This issue is clarified in the Conclusion of this report. For the purposes of this research project, specialists from a range of disciplines such as psychology, education, speech therapy, occupational therapy and welfare were called "consultants". This term was used simply because under the terms of the research funding proposal, they were paid as consultants to the research project. It became quickly evident, however, that they were more than consultants, they were an integral part of the program provision itself. Their initial role was intended to be a monitoring of the research process and tutor training being undertaken. By the end of even the first consultant's meeting, their role had evolved to become more that of "critical friends" to the tutors and myself as teacher/researcher. It was from this that the concept of tutors, teachers and consultants functioning as a multi-disciplinary group/team emerged.

Table 1: Participants in the Tutor Training Program

The Tutors		
Age:	Ages range from 22 to 53 years	
Sex:	Males 2	Females 9
Occupations:		
. Residential Care Officer		3
. Caregiver/Supervisor		6
. House Parent & Volunteer Friend		1
. Part-Time TAFE Teacher		1
The Clients		
Age:	Ages range from 30 to 50 years	
Sex:	Male 1	Females 4
Place of Work:		
. Activity Therapy Centre		5
Place of Residence:		
. Residential Villa		2
. ALS Home		2
. Family Home		1
The Consultants		
Age:	Ages range from early 20 to 50 years	
Sex:	Male 3	Female 5
Occupation:		
. Psychologist		2
. Language Consultant		1
. Speech Therapist		1
. Occupational Therapist		1
. Adult Literacy Teacher		1
. Rehabilitation Counsellor		1

RECOMMENDATIONS

Training

It is recommended that:

- Within the framework of an Adult Literacy Tutor Training Program, an elective module, in Literacy for Adults with Intellectual Disabilities, be written. Such a module would have as its prerequisite, a core module focusing on the theories and beliefs underpinning Adult Literacy program provision.
- Such an elective module (as noted above), be compulsory in the training programs of Adult Literacy teachers.
- The specialisation/elective module in Literacy for Adults with Intellectual Disabilities (see above), be integrated into the training programs for caregivers/supervisors of adults with intellectual disabilities.

Materials

It is recommended that a resource file of materials for program provision in this area be compiled. Such a file would show not only the materials themselves, but potential contextualised use with specific client groups.

Trialling in other contexts

It is recommended that such a program as this be trialled in a variety of contexts. Such contexts may range from Special Schools (teachers and teacher aides); the pre-service training of teachers and caregivers; to parents of both children and adults with an intellectual disability.

Cautions

There is a potential danger that any articulation of teaching strategies may be perceived and used as "recipes" to be used in the provision of literacy programs for adults with moderate to severe intellectual disabilities. The constraint of time should not be allowed to justify shortcuts to tutors' growth and development as autonomous facilitators, working with autonomous learners.

CONCLUSION

Adults with moderate to severe intellectual disability were found to respond to individualised literacy programs designed to facilitate their growth and development as autonomous learners. These literacy programs used the principles of whole language in use to develop communicative competence. This approach involved the use of the skills of reading, writing, listening, speaking and critical thinking in transactional, literary and non-literacy genres situated within meaningful, real-life contexts. Such programs were intended to recognise clients' rights to power over their own learning.

Literacy programs for adults with moderate to severe intellectual disabilities were found to be best managed by a multi-disciplinary team, functioning as a self-help group of literacy program facilitators.

To achieve effective functioning of such a group, networking between service providers was found to be essential. Adult Literacy teachers need to manage such teams by consultation and negotiation. Adult Literacy tutors have been found to also need such consultation and negotiation skills to function effectively as members of such groups.

As this research has shown, Adult Literacy teachers and tutors need specific knowledge, skills and attitudes to provide programs for adults with moderate to severe intellectual disabilities. With each client, we needed to ask ourselves, "What is happening here?" As was found during the implementation of this tutor training program, the answers came from the clients and tutors themselves within a scaffolding framework provided by the teacher. This framework facilitated the enhancement of participants' knowledge of, skills in and attitudes towards literacy program provision with adults with intellectual disabilities.

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Listed below are references which teachers of this tutor training program may find useful as background reading.

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APPENDIX 1

FRED AND ELEANOR SCHONELL SPECIAL EDUCATION RESEARCH CENTRE

SURVEY OF LITERACY COURSES FOR ADULTS WITH INTELLECTUAL DISABILITIES

PRINCIPAL/PRESIDENT/DIRECTOR QUESTIONNAIRE

The Survey of Adult Literacy Provision for People with an Intellectual Disability is a joint project being conducted by the Schonell Special Education Research Centre, the Queensland Division of Intellectual Disability Service and the Division of Adult Education, Access and Equity. It is an Australia-wide project funded by the International Literacy Year Secretariat and will be completed by the end of May, 1992.

The project has four main concerns:

1. To document the literacy programs available throughout Australia to people with an intellectual disability. These may be 'literacy only' programs or other programs with literacy components.
2. To document the current skills and training of staff working in literacy programs for people with an intellectual disability, or in mainstream literacy courses which people with an intellectual disability attend.
3. To determine what communication behaviours and needs people with an intellectual disability have.
4. To document the curriculum, materials, teaching techniques, and effects of selected programs being trialled with persons who have an intellectual disability.

This questionnaire is designed for the Principal of the college or president/director of the relevant organization.

Please note that the word **"course"** means a "course of study", "class" or "tuition".

"Staff" includes all personnel involved in teaching, including teachers, tutors, and volunteers.

No identifying information obtained will be made available to anyone other than the research team, and only group data will appear in our final report or subsequent papers.

(For mailing information – see last page).

Principal/President/Director Questionnaire

1 Name of person completing questionnaire……………………………………

2 Position held ……………………………………

3 College/Institution/Organisation……………………………………

4 Postal address……………………………………

…………………………………… Post Code……………

Telephone:…………… Extension……………

5 a Do you provide literacy courses for adults with a mild intellectual disability?

Yes ☐ No ☐

5 b Do you provide literacy courses for adults with a moderate intellectual disability?

Yes ☐ No ☐

5 c Do you provide literacy courses for adults with a severe intellectual disability?

Yes ☐ No ☐

6 If you have answered no to 5a, 5b, or 5c, are you planning to provide such courses in the future?

Yes ☐ No ☐

7 If no, what reasons have there been which have prevented you from providing such courses?

……………………………………

……………………………………

……………………………………

8 a Do you have students with a mild intellectual disability mainstreamed in general literacy classes?

Yes ☐ No ☐

b Do you have students with a moderate intellectual disability mainstreamed in general literacy classes?

Yes ☐ No ☐

c Do you have students with a severe intellectual disability mainstreamed in general literacy classes?

Yes ☐ No ☐

9 a If you have answered yes to 8a, 8b, or 8c do you provide any special support services?

Yes ☐ No ☐

9 b If yes, please specify their nature..

....

....

10 a Do you have students with a mild intellectual disability mainstreamed in vocational/other classes?

Yes ☐ No ☐

b Do you have students with a moderate intellectual disability mainstreamed in vocational/other classes?

Yes ☐ No ☐

c Do you have students with a severe intellectual disability mainstreamed in vocational/other classes?

Yes ☐ No ☐

11 If you answered yes to questions 10, 10b, or 10c list the name of a course from each category below which students with intellectual disabilities attend:

1) a pre-vocational/vocational course
2) a living skills course
3) a recreation/hobby course

Please provide the number of students enrolled, and an estimate of the number who are intellectually disabled.

	Course name	No. of students enrolled	Estimated number who have an intellectual disability
1.			
2.			
3.			

12 For the courses you have identified in Q.11 above, please indicate whether or not you provide any special support services for people with an intellectual disability, and specify their nature.

Course	Special support provided Yes/No	Nature of support
1.		
2.		
3.		

13 Please identify any particular difficulties your college/organisation has in the **provision**, **operation,** and **maintenance** of courses for individuals with intellectual disabilities. (e.g., access*, availability**, staff training, curriculum, resources, assessment, funding, etc.)

....

....

....

....

....

....

14 Please specify what is needed to overcome these difficulties.

....

....

....

....

15 Further comments related to the provision of literacy classes for adults with an intellectual disability would be welcomed.

....

....

....

....

....

....

....

....

---

* access may be restricted for example by re-enrolment policy, or a policy of only taking adults with a mild intellectual disability.

** availability refers to if courses run, how often, and whether there are waiting lists.

16 Do you provide training for teachers/tutors of literacy?

Yes ☐ No ☐

17 Please provide a contact name for the provider of the training course in your institution/organization.

....

If you have checked (√) "yes" to Questions 5a, b, c or 8a, b, c, please give the attached questionnaires "Review of Programs" and "Review of Current Skills and Training" and envelopes to the course providers to complete. If you require more please make extra copies.

Please return this questionnaire along with the envelopes containing the questionnaires from your staff and send them to the Fred and Eleanor Schonell Special Education Research Centre, The University of Queensland, Qld. 4072.

Thank you for your assistance.

APPENDIX 2

Respondents—Principals', Directors', Presidents' Questionnaire

1.	Distance Education Centre, West Perth	WA
2.	Tasmanian School of Distance Education, North Hobart	TAS
3.	A.L.B.E. Unit, Devonport	TAS
4.	Sunshine Coast Community College, Nambour	QLD
5.	A.L.B.E. Unit, Burnie	TAS
6.	Redland Community College, Capalaba	QLD
7.	Victorian College of Agriculture and Horticulture, East Melbourne	VIC
8.	Northern Territory University, Casuarina	NT
9.	Southern Downs Community College of TAFE, Warwick	QLD
10.	TAFE, Taree	NSW
11.	Gympie College of TAFE, Gympie	QLD
12.	Gordon Technical College, Geelong	VIC
13.	Hobart Technical College, North Hobart	TAS
14.	North Sydney TAFE, Brookvale	NSW
15.	North Sydney TAFE, Brookvale	NSW
16.	Goulburn TAFE, Goulburn	NSW
17.	Maryborough College of TAFE, Maryborough	QLD
18.	Albury TAFE, Albury	NSW
19.	Gladstone College of TAFE, Gladstone	QLD
20.	NSW TAFE - Katoomba College	NSW
21.	Northern Territories Open College of TAFE, Palmerston	NT
22.	Wodonga College of TAFE, Wodonga	VIC
23.	Johnstone TAFE, Innisfail	QLD
24.	Yeronga College of TAFE, Yeronga	QLD
25.	Box Hill College of TAFE, Box Hill	VIC
26.	North Metropolitan College of TAFE, Wangara	WA
27.	Woodsome St TAFE Centre, Mount Lawley	WA
28.	South Brisbane College of TAFE, South Brisbane	QLD
29.	Forbes TAFE, Forbes	NSW
30.	Townsville College of TAFE, Townsville	QLD
31.	Murwillumbah TAFE, Murwillumbah	NSW
32.	Yallah College of TAFE, Dapto	NSW
33.	Kingston College of TAFE, Brighton	SA
34.	Inverell TAFE College, Inverell	NSW
35.	Gold Coast Institute of TAFE, Southport	QLD
36.	Padstow College of TAFE, Padstow	NSW
37.	Newcastle Technical College, Tighes Hill	NSW
38.	Carlisle TAFE, Carlisle	WA
39.	Logan TAFE, Logan	QLD
40.	Corowa TAFE, Corowa	NSW
41.	Lithgow TAFE, Lithgow	NSW
42.	N.W. Regional College of TAFE, Burnie	TAS
43.	Toowoomba TAFE, Toowoomba	QLD
44.	South East College of TAFE, Mt Gambier	SA
45.	Midlands Regional College of TAFE, Midland	WA
46.	Frankston College of TAFE, Frankston	VIC

47.	Deniliquin TAFE College, Deniliquin	NSW
48.	Northern Metro TAFE, Preston	VIC
49.	Randwick TAFE, Randwick	NSW
50.	Moss Vale College of TAFE, Moss Vale	NSW
51.	Loddon Campaspe College of TAFE, Bendigo	VIC
52.	Moonya A.T.S.S., Wonthaggi	VIC
53.	Port Adelaide College of TAFE, Port Adelaide	SA
54.	Ithaca College of TAFE, Grovely	QLD
55.	Torres Strait TAFE Campus, Thursday Island	QLD
56.	Mt Gravatt College of TAFE, Brisbane	QLD
57.	North Point College of TAFE, Bracken Ridge	QLD
58.	North Metropolitan College of TAFE, Doubleview	WA
59.	South West Regional College of TAFE, Bunbury	WA
60.	Gunnedah College of TAFE, Gunnedah	NSW
61.	Casino College of TAFE, Casino	NSW
62.	Towers and Dalrymple Tutors, Charters Towers	QLD
63.	Toowoomba TAFE, Gatton	QLD
64.	Cairns TAFE College, Cairns	QLD
65.	Port August College of TAFE, Port Augusta	SA
66.	Central Highlands College of TAFE	QLD
67.	Moorabbin College of TAFE, Moorabbin	VIC
68.	Literacy Access for Adults in Clermont	QLD
69.	Moruya College of TAFE, Moruya	NSW
70.	Nowra TAFE, Moruya	NSW
71.	Milton/Ulladulla TAFE, Moruya	NSW
72.	Yallourn College of TAFE, Newsborough	VIC
73.	Embleton TAFE Centre, Embleton	WA
74.	Disability Services Bureau, DEET, East Perth	WA
75.	Yallah College, Dapto	NSW
76.	Coffs Harbour College of TAFE, Coffs Harbour	NSW
77.	Elizabeth College of TAFE, Elizabeth	SA
78.	TAFE Western Suburbs, Blacktown, Sydney	NSW
79.	Burdekin College of TAFE, Home Hill	QLD
80.	Central Metropolitan College, Perth	WA
81.	Swinburne College of TAFE, Hawthorn	VIC
82.	Mach/Aust. Inc., Acacia Ridge	QLD
83.	Hunter Institute of Technology, Tighes Hill	NSW
84.	Tuncurry/Forster TAFE, Tuncurry	NSW
85.	Cooma College of TAFE, Cooma	NSW
86.	College of the South West, Roma	QLD
87.	Rockhampton College of TAFE, Rockhampton	QLD
88.	Moranbah Adult Literacy Group, Moranbah	QLD
89.	Whyalla College of TAFE, Whyalla Norrie	SA
90.	Red Cross Training Centre, Fortitude Valley	QLD

APPENDIX 3

FRED AND ELEANOR SCHONELL SPECIAL EDUCATION RESEARCH CENTRE

SURVEY OF LITERACY COURSES FOR ADULTS WITH INTELLECTUAL DISABILITIES

CES/Skillshare Survey

The Survey of Adult Literacy Provision for People with an Intellectual Disability is a joint project being conducted by the Schonell Special Education Research Centre, the Queensland Division of Intellectual Disability Service and the Division of Adult Education, Access and Equity. It is an Australia-wide project funded by the International Literacy Year Secretariat and will be completed by the end of May, 1992.

We would appreciate it if you could complete this questionnaire and return it to the Schonell Special Education Research Centre, The University of Queensland Qld. 4072 as soon as possible.

Name of CES/Skillshare: ....

Name of person completing questionnaire: ....

Position held: ....

Postal address: ....

.... Post Code ....

Telephone: .... Extension ....

1. Do you provide literacy courses for adults with an intellectual disability?

   yes ☐ no ☐

2. If no, are you planning to provide such a course in the future?

   yes ☐ no ☐

3. Do you have clients with an intellectual disability in other courses?

prevocational		vocational		living skills		other	
yes	no	yes	no	yes	no	yes	no
☐	☐	☐	☐	☐	☐	☐	☐

please specify: ....

4. Is there a literacy component to those courses?

yes	no	yes	no	yes	no	yes	no
☐	☐	☐	☐	☐	☐	☐	☐

5. a. Do you refer clients with an intellectual disability somewhere else for literacy training?

yes ☐ no ☐

b. Where?..

....

....

(please provide complete address)

6. Do you have specific difficulties in:

(a) **advising** clients with an intellectual disability

yes ☐ no ☐

(b) **placing** clients with an intellectual disability in **jobs**

yes ☐ no ☐

If yes, please specify..

(c) **placing** clients with an intellectual disability in **training**

yes ☐ no ☐

If yes, please specify..

(d) **placing** clients with an intellectual disability in **literacy classes**

yes ☐ no ☐

If yes, please specify..

7. How do you assess the literacy needs of adults with an intellectual disability prior to advising them of appropriate employment or training?

....

....

8. (a) Do you refer clients with an intellectual disability somewhere else for assessment?

yes ☐ no ☐

Where?..

....

....

(please provide complete address)

Thank you for your assistance

APPENDIX 4

Respondents—CES and Skillshare Questionnaire

1.	Port August CES	SA
2.	Lismore Skillshare	NSW
3.	Mareeba CES	QLD
4.	Frankston Special Service Centre	VIC
5.	Shepparton CES	VIC
6.	Cowra CES	NSW
7.	HETA Hilton	SA
8.	Port Hedland Employment, Education & Training	WA
9.	Wollongong CES	NSW
10.	Caboolture CES	QLD
11.	Ararat CES/Skillshare	VIC
12.	Bondi Junction CES	NSW
13.	Goulburn CES	NSW
14.	Fitzroy CES	VIC
15.	South West Skillshare	WA
16.	West Gippsland Skillshare	VIC
17.	Kununurra CES	WA
18.	Kingston CES Tas	TAS
19.	Pine Rivers CES	QLD
20.	Hay Employment Training Centre	NSW
21.	Burnie CES	TAS
22.	Skillshare Capricornia	QLD
23.	Willson Training Centre	TAS
25.	Toowoomba District Skillshare	QLD
26.	Malvern Caulfield Skillshare	VIC
27.	Wangaratta CES	VIC
28.	South Barwon Skillshare	VIC
29.	Thuringowa Job Training Centre	QLD
30.	St Albans-Braybrook Skillshare	VIC
31.	Gold Coast Skill Centre	QLD
32.	Lalor Skillshare	VIC
33.	Employment 2000 Brisbane Skillshare	QLD
34.	Bowen Job Training Centre	QLD
35.	Glenroy Skillshare	VIC
36.	Warrnambool Skillshare	VIC
37.	Northcote Skillshare	VIC
38.	Logan ITEC (Information Technology Centre)	QLD
39.	Peninsula Training & Employment Program	VIC
40.	Skillshare Wembley	WA
41.	North Qld Disability Access Support	QLD
42.	Workready Ballarat	VIC
43.	Noosa Skillshare	QLD
44.	Werribee Skillshare	VIC
45.	Twin Towns CES	QLD
46.	Bundaberg Skillshare	QLD

47.	South Burnett Skillshare	QLD
48.	Stanthorpe Training Centre	QLD
49.	Workshop 25 Geelong	VIC
50.	Stones Corner Skillshare	QLD
51.	Nadow (Qld.)	QLD
52.	Ipswich Skillshare	QLD
53.	Lutwyche Skillshare	QLD
54.	Wynnum Skillshare	QLD
55.	Huon Skills Training Inc.	TAS
56.	Wollongong City Mission	NSW
57.	Kyneton and Woodend District Skillshare	VIC
58.	Port August Skillshare	SA
59.	Colac Work Skills	VIC
60.	Work-link, Richmond	VIC
61.	Copper Triangle Skillshare	SA
62.	CES Fremantle	WA
63.	Mount Isa CES	QLD
64.	Walgett Skill Centre Incorp.	NSW
65.	Bellingen Shire Skillshare	NSW
66.	Nambucca Skillshare, Macksville	NSW
67.	Rockingham Skills Training Centre	WA
68.	Roma and District Skillshare	QLD
69.	Macarthur Area Skillshare, Campbelltown	NSW
70.	Sale Access Program (Skillshare)	VIC
71.	Effect Employment, Fairfield	NSW
72.	Skillshare Karratha	WA
73.	Shire of Hastings Skillshare	VIC
74.	Dandenong CES	VIC
75.	Bowral CES	NSW
76.	Human Resources Centre, Southport	QLD
77.	HETA One, Stepney	SA
78.	Victoria Park CES	WA
79.	Penrith CES	NSW
80.	Ballina Skills Development Centre Inc	NSW
81.	Huon Skills Training Inc., Huonville	TAS
82.	Essendon Skillshare, Moonee Ponds	VIC
83.	Inverell Country Service Centre	NSW
84.	Enoggera CES	QLD
85.	Scarborough Skillshare, Osborne Park	WA
86.	Perth ITEC (Information Technology Centre) Skillshare	WA
87.	Salisbury CES	SA
88.	Leeton Skills Centre Inc	NSW
89.	Footscray Skillshare	VIC
90.	AWARE Skills Project Inc, Mount Waverley	VIC
91.	Grafton Skillshare	NSW
92.	Logan City Skillshare	QLD
93.	Mersey Skill Training, Devonport	TAS
94.	Success Training for Employment, Spotswood	VIC
95.	Ryde SSC-CES	NSW
96.	Geraldton Skillshare	WA
97.	City of Morwell Skillshare	VIC
98.	Atherton Skillshare	QLD
99.	Armidale Skillshare	NSW
100.	Burnie Skillshare	TAS

101.	Lilydale and Yarra Valley Skillshare	VIC
102.	Ararat Skillshare	VIC
103.	Liverpool CES	NSW
104.	Whitfords Skillshare, Hillary	WA
105.	Southport Skillshare	QLD
106.	Kwinana Skillshare, Calista	WA
107.	Southbank Skillshare, South Brisbane	QLD
108.	Hervey Bay Skillshare, Pialba	QLD
109.	Rivskills Employment Training Scheme, Berri	SA
110.	Jobskills Carnarvon Inc	WA
111.	Maryborough Skillshare	VIC
112.	Gosford Skillshare	NSW
113.	Sale CES	VIC
114.	Cleveland CES	QLD
115.	Noarlunga CES	SA
116.	Port Lincoln Skillshare	SA
117.	Melbourne Job Centre	VIC
118.	Maddington CES	WA
119.	Employment 2000 Skillshare (Perth), Morley	WA
120.	Alice Spring Skillshare	NT
121.	Charleville CES	QLD
122.	Hurstville CES	NSW
123.	Kelmscott Training Centre Inc., Armadale	WA
124.	Mandurah CES	WA
125.	Skillshare Training Centre (Maryborough)	QLD
126.	Albany and Districts CES	WA
127.	Billabong Skillshare, Holbrook	NSW
128.	Baulkham Hills CES Job Centre	NSW
129.	Coburg Job Centre	VIC
130.	SSC North Melbourne CES	VIC
131.	Footscray CES	VIC
132.	Wynnum CES	QLD
133.	Sunshine Special Service Centre	VIC
134.	Maylands Skillshare	WA
135.	Colac DEET	VIC
136.	Broadmeadows Skillshare	VIC
137.	S.W. Workskill Inc. Warradale	SA
138.	Carlton/Fitzroy Skillshare	VIC
139.	Sunbury Skillshare	VIC
140.	Comskil, Woodville Park	SA
141.	Brunswick Skillshare	VIC
142.	Blacktown Skillshare (The Work Place)	NSW
143.	Eastern Shore Special Service Centre, Rosny Park	TAS
144.	Fremantle Skillshare	WA
145.	The Employment Enterprise Centre Inc SA, Glandore	SA
146.	Swan Hill Skillshare	VIC
147.	Mount Isa Country Service Centre	QLD
148.	Heidelberg Skillshare	VIC
149.	Wimmera Skillshare, Horsham	VIC
150.	Mission Employment Noarlunga, Christies Beach	SA
151.	Campbelltown Work Wise	SA
152.	Multicultural Employment Program, Campsie	NSW
153.	SCOPE (Skillshare Pt Pirie)	SA
154.	Inala CES	QLD

155.	Midland CES	WA
156.	Armadale West Aust	WA
157.	Leuen Training Centre Inc. Tas., Ulverston	TAS
158.	CES Annerley	QLD
159.	Bundaberg CES	QLD
160.	South Brisbane CES (Special Services Centre)	QLD
161.	Part Employment Project Skillshare, Port Adelaide	SA
162.	South Melbourne CES	VIC
163.	Hobart Special Service Centre	TAS
164.	Centrecare Perth	WA
165.	Port Lincoln CES (Special Services Centre)	SA
166.	Mackay Skillshare	QLD
167.	Barossa Skillshare, Nuriootpa	SA
168.	CES Goodna, Goodna Skillshare	QLD
169.	Kurri Kurri Skillshare Project	NSW
170.	Maroubra CES	NSW
171.	Nelson Bay Skillshare	NSW
172.	Camberwell CES	VIC
173.	Redcliffe/Deception Bay Skillshare	QLD
174.	Townsville CES (Special Services Centre)	QLD
175.	Bathurst Skillshare	NSW
176.	Disability Access Support Unit NSW (Skillshare Network Service), Wallsend	NSW
177.	Gunnedah Skillshare	NSW
178.	Northside Skillshare Inc.	QLD
179.	Wyong CES	NSW
180.	Marrickville Special Services Centre	NSW
181.	Caringbah Job Centre	NSW
182.	Key Training Centre Hobart	TAS
183.	Elizabeth Skillshare	SA
184.	Innisfail Skillshare Centre	QLD
185.	Port Adelaide CES	SA
186.	Glen Innes Skillshare	NSW
187.	Casino Skillshare	NSW
188.	Westlakes Community Training Service, Toronto	NSW
189.	Rockhampton Job Centre	QLD
190.	Adelaide Options	SA
191.	Oakleigh Skills Employment Training	VIC
192.	Queanbeyan Skillshare	NSW
193.	Springboard Sunshine Skillshare	VIC
194.	Echuca Skillshare	VIC
195.	Bayside Employment Skills Training (Mentone)	VIC
196.	Bairnsdale Skillshare	VIC
197.	Alderley CES	QLD
198.	Mildura and District Educational Council	VIC
199.	Peel District Skillshare WA	WA
200.	North East Region Training Assoc. (Inc.)	WA
201.	Albury Wodonga Country Service Centre	NSW

APPENDIX 5

FRED AND ELEANOR SCHONELL SPECIAL EDUCATION RESEARCH CENTRE

SURVEY OF LITERACY PROVISION FOR ADULTS WITH INTELLECTUAL DISABILITIES

CORRECTIONAL SERVICES SURVEY

The Survey of Adult Literacy Provision for People with an Intellectual Disability is a joint project being conducted by the Schonell Special Education Research Centre, the Queensland Division of Intellectual Disability Service and the Division of Adult Education, Access and Equity. It is an Australia-wide project funded by the International Literacy Year Secretariat and will be completed by the end of May, 1992.

We would appreciate it if you could complete this questionnaire and return it in the enclosed stamped, addressed envelope to the Schonell Special Education Research Centre, The University of Queensland Qld. 4072 as soon as possible.

Name of Correctional Institution:...

Name of person completing questionnaire:..

Position held: ....

Postal address:...

.... Post Code ....

Telephone:................................ Extension................

1. Prison Population

a. Total ☐ b. Number* with an intellectual disability ☐

* Circle which applies (i) known number
(ii) estimated number

2. (a) Do you provide literacy training/education?

Yes ☐ No ☐

(b) If yes, please specify nature:..

....

(c) If yes, who provides this?

Educational Officer ☐ Other ☐ please specify..

3. If no, are you planning to provide literacy training in the future?

Yes ☐ No ☐

4. (a) Do you provide special, or separate literacy training/education for adults with an intellectual disability?

Yes ☐ No ☐

(b) If yes, please specify nature: ....
....

(c) If yes, who provides this?

Educational Officer ☐ Other ☐ please specify.......................................

5. Do you provide **informal** literacy training? (for example, in other courses)

Yes ☐ No ☐

Please specify ....
....

6. Do any of your offenders receive literacy training by correspondence?

Yes ☐ No ☐

Please specify from where...
....

7. Do you use computers for literacy training purposes?

Yes ☐ No ☐

Please list software ....

8. Do you have any particular difficulties in providing literacy training for adults with an intellectual disability?

Yes ☐ No ☐

If yes, please specify..
....
....

Thank you for your assistance.

APPENDIX 6

Respondents—Correctional Services Questionnaire

1.	Bunbury Regional Prison	WA
2.	Kirkconnell Afforestation Camp	NSW
3.	Bathurst Gaol	NSW
4.	Silverwater Work Release Centre	NSW
5.	Moreton Correctional Centre	QLD
6.	Won Wron Prison	VIC
7.	Townsville Prison	QLD
8.	Casuarina Prison	WA
9.	Karnet Prison Farm	WA
10.	Gunn Point Prison Farm	NT
11.	Sir David Longland Prison	QLD
12.	Mobilong Prison	SA
13.	Bandyup Women's Prison	WA
14.	Yatala Labour Prison	SA
15.	Tarrengower Prison	VIC
16.	Port Augusta Prison	SA
17.	Wyndam Regional Prison	WA
18.	Barwon Prison	VIC
19.	Northfield Prison Complex	SA
20.	Ararat Prison	VIC
21.	Sale Prison	VIC
22.	Pentridge Prison	VIC
23.	Wooroloo Prison Farm	WA
24.	East Maitland Prison	NSW
25.	Rockhampton Correctional Centre	QLD
26.	Coburg Metropolitan Reception Prison	VIC
27.	Cooma Prison	NSW
28.	Lotus Glen Correctional Centre	QLD
29.	Risdon Prison	TAS
30.	Berrima Training Centre	NSW
31.	Brisbane Women's Correctional Centre	QLD
32.	Oberon Afforestation Camp	NSW
33.	Parklea Prison	NSW
34.	Emu Plains Training Centre	NSW
35.	Albany Regional Prison	WA
36.	John Morony Correctional Centre	NSW
37.	Borallon Correctional Centre	QLD

APPENDIX 7

DIRECTIONS FOR TEACHERS/TUTORS

FRED AND ELEANOR SCHONELL SPECIAL EDUCATION RESEARCH CENTRE

SURVEY OF LITERACY COURSES FOR ADULTS WITH INTELLECTUAL DISABILITIES

Review of Programs

The Survey of Adult Literacy Provision for People with an Intellectual Disability is a joint project being conducted by the Schonell Special Education Research Centre, the Queensland Division of Intellectual Disability Service and the Division of Adult Education, Access and Equity. It is an Australia-wide project funded by the International Literacy Year Secretariat and will be completed by the end of May, 1992.

The project has four main concerns:

1. To document the literacy programs available throughout Australia to people with an intellectual disability. These may be 'literacy only' programs or other programs with literacy components.
2. To document the current skills and training of staff working in literacy programs for people with an intellectual disability, or in mainstream literacy courses which people with an intellectual disability attend.
3. To determine what communication behaviours and needs people with an intellectual disability have.
4. To document the curriculum, materials, teaching techniques, and effects of selected programs being trialled with persons who have an intellectual disability.

The purpose of this questionnaire is to obtain information regarding the **first** concern listed above.

Please complete this questionnaire:

1. If you provide a literacy course/class/tuition specifically for people with an intellectual disability.

or 2. If you provide a mainstream literacy course/class/tuition which people with an intellectual disability attend.

Please note that the word **"course"** means a "course of study", "class" or "tuition".

No identifying information obtained will be made available to anyone other than the research team, and only group data will appear in our final report or subsequent papers.

When you have completed the questionnaire, please seal it in the envelope provided and give it to your principal/president, who will place it in another envelope to be sent to the Schonell Special Education Research Centre, The University of Queensland Qld. 4072.

Review of Programs

1 Name of person completing questionnaire..

2 Position held ....

3 College/Institution/Organisation ....

4 Postal address...

.... Post Code..................

Telephone:...................... Extension........................

Please complete the following for one course[1]. If you provide a literacy course for adults with an intellectual disability or a mainstream literacy course which adults with an intellectual disability attend please photocopy this questionnaire and complete a separate questionnaire for each type of course.

5 Course name and code (if applicable)

....

6 Please tick the appropriate box

Literacy course for adults with an intellectual disability ☐

Mainstream literacy course which adults with an intellectual disability attend ☐

7 Name of principal instructor in course ....

8 How many people are involved in teaching this course?

8a In a paid capacity ....

8b In a voluntary capacity ....

9 What are the sources of funding for this course?

....

10 How long has this course been running? ....

11 How often is this course offered?

Yearly ☐ Twice yearly ☐ More than twice yearly ☐

---

[1] Please note the word **"course"** means a "course of study", "class" or "tuition".

12 Does this course have

Fixed entry (students join this course at fixed times - e.g., start of year)	Staggered entry (Students may join this class at any time)
☐	☐

13 a Some courses do not allow reenrolment (that is, attending the course more than once). Is this true of your course?

Yes	No
☐	☐

13 b If yes, why did this policy of non-reenrolment evolve?

....

....

....

14 a Duration of course

Hours per week	Number of weeks
☐	☐

14 b Time offered

Day	Evening	Both
☐	☐	☐

15 What are the main course objectives?..

....

....

....

16 How is the attainment of course objectives being assessed?

....

....

....

....

....

....

17 Please give a brief outline of course content (where available please attach a course outline to the completed questionnaire).

....

....

....

....

18 a Is this course targeted at a specific group?

Yes	No
☐	☐

18 b If yes, please specify ....

19 a By whom are students referred to this course? (if appropriate, tick more than 1 box)

self	parents	special schools or classes	residential staff	employers	advocacy groups	other
☐	☐	☐	☐	☐	☐	☐

19 b If other, please specify ....

20 How are students assessed for course **entry**?

Interview	Standardized tests	Other	No assessment
☐	☐	☐	☐
	Please list	Please list	
	....	....	
	....	....	

21 How is student progress assessed **during** the course?

No assessment	Progressive sampling of student work	Informal assessment e.g., classroom observation
☐	☐	☐

Formal assessment
e.g., standardized tests

☐ Please list ....

....

☐ Other (please specify) ....

....

22 a How is student progress assessed **at the completion** of the course?

....

....

22 b If standardised tests are used, please list ....

....

23 What is the usual class size?

Individual tuition	2-6	7-12	more than 12
☐	☐	☐	☐

24 a Please list materials used (e.g., kits, workbooks),	24 b and their sources (including publisher)
....	....
....	....
....	....
....	....

25 a Have you/your staff designed any materials/resources for this course?

Yes ☐ No ☐

25 b Would these materials be suitable for other literacy course providers to use?

Yes ☐ No ☐

26 a Does this course follow a planned curriculum?

Yes ☐ No ☐

26 b If yes, where did you obtain your curriculum?

Designed own ☐ Other ☐ Please specify..

27 Is this course **mainly**

English Language Arts ☐ Numeracy ☐ English Language Arts/ Numeracy ☐

28 Please indicate which term best describes your teaching approach.

Whole language ☐ Genre ☐ Thematic ☐ Skills-based ☐ Other ☐

Please specify ....

29 Do the students use computers in this course?

Yes ☐ No ☐

If yes, please list software..

....

30 How many students have **enrolled** in this course since its inception?............................

31 How many students have **completed** this course since its inception?............................

32 a Do you believe this course fulfils the need for literacy courses for adults with an intellectual disability in your area?

Yes ☐ No ☐

32 b If no, why not?..

....

....

33 a Does this course have a waiting list?

Yes ☐ No ☐

33 b If yes, how many are on the waiting list?...

33 c If yes, what is needed to clear this waiting list?...

....

....

....

34 How do you rate the outcomes of this course? (Mark with a cross on the line)

unsuccessful — very successful

|————|————|————|————|

35 Do you consider this course a model for successful service delivery?

Yes ☐ No ☐

36 If yes, what features do you consider essential to successful service delivery? (You may like to consider access, availability, staff training and skills, curriculum, teaching resources, referral, assessment, funding).

....

....

....

....

....

....

37 If no, what changes would you like to be able to make to this course to enhance its effectiveness?

....

....

....

....

....

....

38 Please list any other literacy programs for adults with an intellectual disability you are aware of. (If available, please attach any listings/directories of services.)

....

....

....

....

Thank you for your assistance

APPENDIX 8

Respondents—Review of Courses Questionnaire

1.	Adult Education Centre, Burnie	TAS
2.	Continuing Education Programme, Wodonga	VIC
3.	Glandore Community Centre, Glandore	SA
4.	Glandore Community Centre, Glandore	SA
5.	Continuing Education Centre, Sale	VIC
6.	Hamilton Adult Literacy Programme, Hamilton	VIC
7.	Donvale Living and Learning Centre, Donvale	WA
8.	Carringbush Adult Literacy Program, Richmond	VIC
9.	Attadale Adult Literacy Services, Attadale	WA
10.	Adult Literacy Project, Mt Tarcoola	WA
11.	Activ Industries, Esperance	WA
12.	Literacy Network, Frenchs Forest Public School, Sydney	NSW
13.	Guildford Adult Literacy Services, Perth	WA
14.	Grant St. Community House, Cranbourne	VIC
15.	Upper Yarra Community House, Yarra Junction	VIC
16.	Strathfield Regional Community College, Sydney	NSW
17.	Strathfield Regional Community College, Sydney	NSW
18.	Redland Community College, Brisbane	QLD
19.	Redland Community College, Brisbane	QLD
20.	Redland Community College, Brisbane	QLD
21.	ITAFE Access Centre, Northern Territories University, Casuarina	NT
22.	Devonfield Literacy Unit, Devonport	TAS
23.	Queensland Distance Education College, Brisbane	QLD
24.	A.L.B.E. Unit, Devonport	TAS
25.	Rainbow Adult Literacy, Albany	WA
26.	Casino College of TAFE, Casino	NSW
27.	Towers and Dalrymple Literacy Tutors, TAFE, Charters Towers	QLD
28.	Sisters of the Good Samaritan, Charters Towers	QLD
29.	Toowoomba TAFE, Gatton	QLD
30.	TAFE Light College, Clare	SA
31.	TAFE College, Port Augusta	SA
32.	Cairns TAFE College, Cairns	QLD
33.	Central Highlands College of TAFE, Emerald	QLD
34.	Central Highlands College of TAFE, Emerald	QLD
35.	Moruya College of TAFE, Moruya	NSW
36.	Nowra TAFE, Bomaderry	NSW
37.	Milton/Ulladulla TAFE, Milton	NSW
38.	Yallourn TAFE, Morwell	VIC
39.	Launceston College, Launceston	TAS
40.	TAFE Disability Services Bureau, Northbridge, Perth	WAS
41.	TAFE, Perth	WA
42.	TAFE, Perth	WA
43.	TAFE, Perth	WA
44.	Southern Downs Community College of TAFE, Warwick	QLD
45.	Rockhampton College of TAFE, Rockhampton	QLD

51.	Central Metropolitan College of DEVET, Perth	WA
52.	Ithaca TAFE College, Red Hill, Brisbane	QLD
53.	Red Cross Training Centre, Brisbane	QLD
54.	N.W. College of TAFE, Burnie	TAS
55.	Shellharbour TAFE, Warilla	NSW
56.	Toowoomba TAFE, Toowoomba	QLD
57.	Adult Literacy Unit, Devonport	TAS
58.	Northern Metro. College of TAFE, Preston	VIC
59.	Moss Vale College of TAFE, Moss Vale	NSW
60.	SPELD Qld Inc., Brisbane	QLD
61.	SPELD Qld Inc., Brisbane	QLD
62.	Port Adelaide College of TAFE, Port Adelaide	SA
63.	Grovely TAFE, Grovely	QLD
64.	Pittsworth Adult Literacy Group, Oakey	QLD
65.	North Point College, Bracken Ridge	QLD
66.	Taree TAFE College, Taree	NSW
67.	Gordon Technical College, Geelong	VIC
68.	Hobart Technical College, North Hobart	TAS
69.	Hobart Technical College, North Hobart	TAS
70.	North Sydney TAFE, Brookvale	NSW
71.	North Sydney TAFE, Brookvale	NSW
72.	Frankston College of TAFE, Frankston	VIC
73.	ACT TAFE, Canberra	ACT
74.	Goulburn College of TAFE, Goulburn	NSW
75.	Penrith TAFE, Penrith	NSW
76.	Whyalla College of TAFE, Whyalla Norrie	SA
77.	Maryborough College of TAFE, Maryborough	QLD
78.	Albury TAFE, Albury	NSW
79.	Gladstone College of TAFE, Gladstone	QLD
80.	Katoomba College, Katoomba	NSW
81.	South Brisbane College of TAFE, Brisbane	QLD
82.	South Brisbane College of TAFE, Brisbane	QLD
83.	South Brisbane College of TAFE, Brisbane	QLD
84.	NT Open College of TAFE, Palmerston	NT
85.	NT Open College of TAFE, Palmerston	NT
86.	NT Open College of TAFE, Palmerston	NT
87.	Corowa College of TAFE, Corowa	NSW
88.	Hervey Bay Senior College, Pialba	QLD
89.	Johnstone TAFE, Innisfail	QLD
90.	Yeronga College of TAFE, Fairfield	QLD
91.	Box Hill College of TAFE, Box Hill	VIC
92.	Forbes College of TAFE, Forbes	NSW
93.	Townsville College of TAFE, Townsville	QLD
94.	Murwillumbah TAFE, Murwillumbah	NSW
95.	Yallah College of TAFE, Dapto	NSW
96.	Inverell TAFE College, Inverell	NSW
97.	Padstow College of TAFE, Padstow	NSW
98.	Kalgoorlie College, Kalgoorlie	WA
99.	Logan TAFE, Loganlea	QLD
100.	Logan TAFE, Loganlea	QLD
101.	Lithgow TAFE, Lithgow	NSW
102.	Lithgow TAFE, Lithgow	NSW
103.	Lithgow TAFE, Lithgow	NSW
104.	Lithgow TAFE, Lithgow	NSW
105.	Taree TAFE College, Taree	NSW
106.	Gympie College of TAFE	QLD
107.	Newcastle Technical College, Tighes Hill	NSW

100.	Logan TAFE, Loganlea	QLD
101.	Lithgow TAFE, Lithgow	NSW
102.	Lithgow TAFE, Lithgow	NSW
103.	Lithgow TAFE, Lithgow	NSW
104.	Lithgow TAFE, Lithgow	NSW
105.	Taree TAFE College, Taree	NSW
106.	Gympie College of TAFE	QLD
107.	Newcastle Technical College, Tighes Hill	NSW

APPENDIX 9

Materials used in literacy courses and sources or publishers (where provided by respondents)

Developing Communication Skills ALBSU London 1983
Moving Ahead, Scottish ALBE
Devonport ALBE reading text
Maths for Women Division of Further Education
Maths for consumers, Longmans
Black's writing dictionaries
Newspaper kit - the Cleveland Mart
ALBSU materials
Easy look book (Victoria TAFE) A.C.B.E. resource writing materials
Conquests in reading (Koltmeyer & Ware), McGraw Hill, USA, 1962
Sunshine Maths
Computer Pictographs, Compic Div. Assoc. PO Box 351, North Balwyn, Vic
Lifelines, National Curriculum Resource Centre
Work is a 4 letter word, ABC Education
QPEC Adult Literacy materials
'Trend' and 'Trent set' series
Using Newspapers with Adults, The Courier Mail
Between the Lines, Australian Consolidated Press
Think, Note, Write, Perfection Form Co.
Focus on Form, Dept. of Education (Qld.)
Strength in Numbers, Holmesglen College of TAFE
Life after School, Wheeler, Boote & Macdonald, Swenie Press
ALBE resources, (Tas.)
The Maths Pack, ALBSU
The Spell of Words, R. Aylward Ed. Supplies
Getting Started, Josephine Bauer, Follett Publishing Co. Chicago
Words & Sounds, Parkside Publishing Co. Pty. Ltd., Western Australia
Collins Graded Readers, TESL Books, Melbourne
Vital Signs, M. Brownie, Martin Publ.
Step into cooker, Tasmanian Education Department,
RMIT Cook, Melbourne TAFE
Life Skills Kit, Jacaranda Press
Real Life Reading, Ashton Scholastic
Writing on the Job, Ashton Scholastic
Stimulus Pack, South Australian Adult Literacy Pack
Lifewords 1, 4, 2, South Australian Adult Literacy Pack
Science Mini Packs, J.E. Moore & J. Evans
The Young Australian Atlas, P. Wilson & J. Fien
Action Unit Book, Scholastic Magazines Inc.
Your rights at work, Redfern Legal Centre
Work Wise, DEET
Vocational Ed. Curriculum Programme, WA
Morphographic Spelling, SRA
King of the Road
Write from the Start
Language 1 Literature I, Jacaranda Press

Horizons Wide, William Brooks
Practise your English, Longman Cheshire
Vital Signs, Martin Educational
Real Life Reading, Ashton Scholastic

APPENDIX 10

Computer Software

Once upon a time
Microsoft Word
Word Attack
Type
Crossword Magic
Bankstreet writer
Fred writer
Microsoft Works
Work Processing for Kids
Word Perfect
First Choice
Matching
Appleworks
Maths Blaster
Spelling Builders
Spell IT
Find-a-word
Print Shop
Beaglewrite
Where in the World is Carmen San Diego
Kid Talk
Multiscribe
CERATO packages

APPENDIX 11

DIRECTIONS FOR TEACHERS/TUTORS

FRED AND ELEANOR SCHONELL SPECIAL EDUCATION RESEARCH CENTRE

SURVEY OF LITERACY COURSES FOR ADULTS WITH INTELLECTUAL DISABILITIES

Review of Current Skills and Training of Teaching/Tutoring Staff

The Survey of Adult Literacy Provision for People with an Intellectual Disability is a joint project being conducted by the Schonell Special Education Research Centre, the Queensland Division of Intellectual Disability Service and the Division of Adult Education, Access and Equity. It is an Australia-wide project funded by the International Literacy Year Secretariat and will be completed by the end of May, 1992.

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1. To document the literacy programs available throughout Australia to people with an intellectual disability. These may be 'literacy only' programs or other programs with literacy components.
2. To document the current skills and training of staff working in literacy programs for people with an intellectual disability, or in mainstream literacy courses which people with an intellectual disability attend.
3. To determine what communication behaviours and needs people with an intellectual disability have.
4. To document the curriculum, materials, teaching techniques, and effects of selected programs being trialled with persons who have an intellectual disability.

The purpose of this questionnaire is to obtain information regarding the **second** concern listed above.

Please complete this questionnaire:

1. If you provide a literacy course/class/tuition specifically for people with an intellectual disability.

or 2. If you provide a mainstream literacy course/class/tuition which people with an intellectual disability attend.

Please note that the word **"course"** means a "course of study", "class" or "tuition".

No identifying information obtained will be made available to anyone other than the research team, and only group data will appear in our final report or subsequent papers.

When you have completed the questionnaire, please seal it in the envelope provided and give it to your principal/president, who will place it in another envelope to be sent to the Schonell Special Education Research Centre, The University of Queensland Qld. 4072.

Review of Current Skills and Training of Teaching/Tutoring Staff

1 Name of person completing questionnaire..

2 Age under 26 ☐ 26-35 ☐ 36-45 ☐ over 45 ☐

3 Gender Female ☐ Male ☐

4 Institution/Organisation..

5 Postal address...

.... Post Code..................

Telephone:...................... Extension.......................

6 Course/s involved in ....

....

....

7 Position held ....

8 Are you Full time ☐ Part time ☐

9 a Paid ☐ Voluntary ☐

9 b If paid, are you:

Permanent ☐ Casual ☐

9 c If paid, what award are you paid under?...

10 Is your commitment to this course Short term ☐ or Ongoing? ☐

11 a What qualifications directly related to this position do you hold?

University or CAE ☐ TAFE ☐ Other ☐ None ☐

11 b Please specify highest qualification...

12 a Do your qualifications include a significant component concerning educating persons with an intellectual disability?

Yes ☐ No ☐

12 b Do your qualifications include a significant literacy component?

Yes ☐ No ☐

13 Please list courses in your highest qualification relevant to your current position.

....

....

....

14 Do you consider your qualifications are adequate/inadequate for your current position?

Adequate ☐ Inadequate ☐

15 If "inadequate", which areas do you feel require more attention?

....

....

....

....

16 Have you received training in curriculum design?

Yes ☐ No ☐

17 What other qualifications do you hold?

....

18 What do you consider the necessary **skills** for effective teaching of literacy to adults with intellectual disabilities?

....

....

....

19 What do you consider the necessary **attitudes** for effective teaching of literacy to adults with intellectual disabilities?

....

....

....

20 Relevant experience – please include any unpaid/voluntary work experience, and specify full-time/ part-time.

Position	Full-time/ Part-time	Paid/Unpaid	Length of service
....	....	....	....
....	....	....	....
....	....	....	....
....	....	....	....
....	....	....	....

21 Further comments you may care to make relating to the training of literacy staff for adults with intellectual disabilities would be welcomed.

....

....

....

....

....

....

....

Thank you for your assistance

APPENDIX 12

Respondents—Skills and Training Questionnaire

1.	Adult Education Centre, Burnie	TAS
2.	Continuing Education Centre, Wodonga	VIC
3.	Sale Regional Continuing Centre, Sale	SA
4.	Hamilton Adult and Continuing Education, Hamilton	SA
5.	Donvale Living and Learning, Donvale	VIC
6.	Carringbush ALBE, Richmond	SA
7.	Rainbow Adult Literacy, Albany	WA
8.	Fre-Lid Adult Literacy Services, Attadale	WA
9.	Geraldton Adult Literacy project, Mt Tarcoola	WA
10.	Addwest, Esperance	WA
11.	Literacy Network, French's Forest, Sydney	NSW
12.	Swan-Lit, Guildford	WA
13.	Grant St Community House, Cranbourne	VIC
14.	Glandore Community Centre, Glandore	SA
15.	Hampton Park Community House, Hampton Park	VIC
16.	Strathfield Regional Community College, Sydney	NSW
17.	Redlands Community College, Brisbane	QLD
18.	Redlands Community College, Brisbane	QLD
19.	Redlands Community College, Brisbane	QLD
20.	Itafe Access Centre, Northern Territory University, Casuarina	NT
21.	ALBE Unit, Devonport	TAS
22.	Queensland Distance Education College, Brisbane	QLD
23.	Coffs Harbour College of TAFE, Coffs Harbour	NSW
24.	TAFE, Taree	NSW
25.	Gordon Technical College, Geelong	VIC
26.	Hobart Technical College, North Hobart	TAS
27.	TAFE, Bellerive	TAS
28.	North Sydney TAFE, Brookvale	NSW
29.	North Sydney TAFE, Brookvale	NSW
30.	Frankston College of TAFE, Frankston	VIC
31.	ACT Institute of TAFE, Canberra	ACT
32.	Goulburn TAFE, Goulburn	NSW
33.	Penrith TAFE, Penrith	NSW
34.	Whyalla College of TAFE, Whyalla	SA
35.	Maryborough College of TAFE, Maryborough	QLD
36.	Albury College of TAFE, Albury	NSW
37.	Gladstone College of TAFE, Gladstone	QLD
38.	NSW TAFE, Katoomba	NSW
39.	South Brisbane College of TAFE, Brisbane	QLD
40.	NT Open College of TAFE, Palmerston	NT
41.	NT Open College of TAFE, Palmerston	NT
42.	NT Open College of TAFE, Palmerston	NT
43.	Hervey Bay Senior College, Pialba	QLD
44.	Johnstone TAFE, Innisfail	QLD
45.	Yeronga College of TAFE, Fairfield	QLD
46.	Yeronga College of TAFE, Fairfield	QLD
47.	Forbes College of TAFE, Forbes	NSW
48.	TAFE Townsville	QLD
49.	Murwillumbah Institute of TAFE, Murwillumbah	NSW
50.	TAFE Inverell, Inverell	NSW

51.	Padstow TAFE, Padstow	NSW
52.	Kalgoorlie College, Kalgoorlie	WA
53.	Logan TAFE, Loganlea	QLD
54.	Logan TAFE, Loganlea	QLD
55.	TAFE Lithgow	NSW
56.	TAFE Lithgow	NSW
57.	TAFE Lithgow	NSW
58.	TAFE Lithgow	NSW
59.	Gympie College of TAFE, Gympie	QLD
60.	TAFE Toowoomba	QLD
61.	Adult Literacy and Basic Education Unit, Devonport	TAS
62.	Northern Metropolitan College of TAFE, Preston	VIC
63	Moss Vale College of TAFE, Moss Vale	NSW
64.	Moss Vale College of TAFE, Moss Vale	NSW
65.	SPELD, South Brisbane	QLD
66.	Pittsworth Adult Literacy Group, Oakey	QLD
67.	North Point College of TAFE, Bracken Ridge	QLD
68.	TAFE Casino College, Casino	NSW
69.	Sisters of the Good Samaritan & Towers Dalrymple Tutors, Charters Towers	QLD
70.	Sisters of the Good Samaritan & Towers Dalrymple Tutors, Charters Towers	QLD
71.	Gatton Adult Literacy, Gatton	QLD
72.	TAFE, Helidon	QLD
73.	Gatton Adult Literacy, Gatton	QLD
74.	Light College of TAFE, Clare	SA
75.	TAFE, Port Augusta	SA
76.	Cairns College of TAFE, Cairns	QLD
77.	Central Highlands College of TAFE, Emerald	QLD
78.	Moruya TAFE, Batehaven	NSW
79.	Nowra TAFE, Bomaderry	NSW
80.	Milton/Ulladulla TAFE, Milton	NSW
81.	Yallourn TAFE, Morwell	VIC
82.	Yallourn TAFE, (Newborough)	VIC
83.	Rockhampton College of TAFE, Rockhampton	QLD
84.	Elizabeth College of TAFE, Elizabeth	SA
85.	Burdekin College of TAFE, Home Hill	QLD
86.	Swinburne College of TAFE, Hawthorn	VIC
87.	DEVET WA (TAFE), Perth	WA
88.	Central Metropolitan College of TAFE, Perth	WA
89.	DEVET WA (TAFE), Perth	WA
90.	DEVET WA (TAFE), Perth	WA
91.	Newcastle Technical College, Tighes Hill	NSW
92.	Ithaca College of TAFE, Red Hill	QLD
93.	Ithaca College of TAFE, Red Hill	QLD
94.	Red Cross Training Centre, Fortitude Valley, Brisbane	QLD
95.	TAFE Disability Services Bureau, Northbridge	WA
96.	TAFE, Northbridge	WA
97.	TAFE Disability Services Bureau, Northbridge	WA
98.	TAFE Disability Services Bureau, Northbridge	WA
99.	Devonfield TAFE, Devonport	TAS
100.	Port Adelaide College of TAFE, Port Adelaide	SA
101.	Brisbane School of Distance Education	QLD
102.	Brisbane School of Distance Education	QLD

A STUDY OF THE PROVISION OF ADULT LITERACY/NUMERACY TO ADULTS WITH INTELLECTUAL DISABILITIES AT THE ROCKHAMPTON COLLEGE OF TAFE

LIST OF APPENDICES

1. Personal Profiles of Students in Group One
2. Personal Profiles of Students in Group Two
3. Individual Data Sheet
4. Group One: Sample of a Copying Exercise
5. Group One: Sample of a Language Experience Story
6. Group One: Number Game—Sample of a Student's Response Sheet

7a. 7b Group One: Word Recognition Tests—Tables of Students' Responses to the two Word Recognition Tests conducted on 12.8.91 and 29.8.91 respectively

8. Group One: Word Snap Game Sheet
9. Group Two: Word Recognition Test—Table of Students' Responses to the Word Recognition Test conducted on 17.10.91
10. Group Two: Materials Used Representing Different Genres
11. Group Two: Sample of a Student's Response

APPENDIX 1

Personal Profiles of Students in Group One

Group One - Student 1 Male
- Sheltered Workshop employee
- Lives at home with parents
- Communicates well orally
- Word recognition skills are improving
- Enjoys attending class
- Eagerly copies work from blackboard and Language Experience Stories

Group One - Student 2 Female
- Sheltered Workshop employee
- Lives in residential with house parents.
  Regularly visits parents at home for weekends
- Talkative
- Likes to help and be involved

Group One - Student 3 Male
- Has worked/is working loading/unloading jobs
- Lives with mother but functions independently
- Has attended class for approximately seven years
- Works well but does not recognise words
- Good oral communication skills
- Does charity work (distributing promotional material, etc.)
- Willingly helps other students

Group One - Student 4 Female
- Sheltered Workshop employee
- Lives in residential with house parents
- Doesn't contribute verbally unless asked
- Follows oral directions well
- Speech problems (pronunciation and vocalisation)
- Does not speak in sentences

Group One - Student 5 Female
- Sheltered Workshop employee
- Lives in residential with house parents
- Easily distracted but can be brought back on to task
- Eager to please
- Recalls activities well
- Has some difficulty copying accurately

Group One - Student 6 Male

- Sheltered Workshop employee
- Lives at home
- Is determined to complete an activity before engaging in a new one
- Enjoys activities

Group One - Student 7 Female

- Sheltered Workshop employee
- Lives in residential with house parents
- Seems to prefer number work
- No 1:1 correspondence
- Limited word knowledge
- Does speak in sentences

Group One - Student 8 Male

- Sheltered Workshop employee
- Lives in residential with house parents.
  Regularly visits parent
- Very quiet
- Will usually only reply when required
- Speaks in single words or phrases occasionally

Group One - Student 9 Male

- Lives at home and gets to and from class on pushbike
- Delivers pamphlets
- Attended community classes
- Limited word recognition skills
- Slight speech problem
- Matching good
- Communicative

Group One - Student 10 Female

- Sheltered Workshop employee
- Lives in residential with house parents
- Good functional reading skills
- Good sight vocabulary

Group One - Student 11 Female

- Sheltered Workshop employee
- Lives in residential with house parents
- Eager to attend class
- Has limited word recognition skills
- Follows oral directions well
- Good pencil control skills

APPENDIX 2

Personal Profiles of Students in Group Two

Group Two - Student 1 Female
- Sheltered Workshop employee
- Lives at home
- Gets taxi to and from class if needed
- Reads very well
- Spells reasonably well
- Lacks confidence on occasions
- Will give guidance to others

Group Two - Student 2 Male
- Sheltered Workshop employee
- Lives in a share flat with another male intellectually disabled adult. A person to super-vise lives on site, but the clients are responsible for the day-to-day running of the flat.
- Can change print into cursive script
- Functional sight vocabulary, but gaps in reading to gain meaning
- Initial letter sounds present

Group Two - Student 3 Female
- Sheltered Workshop employee
- Very quick at doing tasks
- Some concept of spelling
- Reading fluent

Group Two - Student 4 Male
- Has worked/is working
- Lives with family member
- Walks to and from class
- Likes to help
- Seeks praise
- Handwriting skills have improved since commencement of course
- No word attack skills
- Limited reading ability.

Group Two - Student 5 Male
- Sheltered Workshop employee
- Lives in residential with house parents
- Enjoys receiving certificate of attendance
- some reading and sight word knowledge

Group Two - Student 6 Male
- Sheltered Workshop employee
- Lives in residential with house parents
- Neatly presented work
- Good reading skills
- Good spelling skills

Group Two - Student 7 Female
- Sheltered Workshop employee
- Was living independently in a flat, with a supervisor, but now boards with a lady who is responsible for meal preparation, etc.
- Very quiet
- Will share more readily in a 1:1 situation
- Some sight vocabulary
- Will write on the blackboard this term
- Will stand back and allow others to take over

APPENDIX 3

FRED AND ELEANOR SCHONELL SPECIAL EDUCATION RESEARCH CENTRE

Survey of Adult Literacy of People with an Intellectual Disability

Individual Data Sheet

1. Person's first name/pseudonym (please delete) ....

2. Age ....

3. Sex ....

4. Background (level of disability and how ascertained)

....

5a Schooling (√ one)

☐ special ☐ regular

5b Age of leaving school, if known.......................

6. Current place of residence (√ one)

☐ with family ☐ in residence ☐ in group home

☐ independently

7. Date Individual Data Sheet completed................................

8a Is this the first time the person has participated in the course? (√ one)

☐ yes ☐ no

8b If no, indicate the number of times the person has participated in this course (√ one)

☐ once before

☐ two previous courses

☐ three previous courses

☐ four previous courses

☐ more than four previous courses

Please circle 1 (yes) or 2 (no) to the following if these behaviours have been attained.

Reading/use of written information

		Yes	No
9.	Can match pictures of most common objects	1	2
10.	Can match words of up to five letters	1	2
11.	Can recognize his/her own name written down	1	2
12.	Can recognize five to ten sight words	1	2
13.	Can recognize and pick out labels, trade names etc. (e.g., brand names for soft drinks, fast food, breakfast cereals)	1	2
14.	Can recognize up to 25 sight words	1	2
15.	Can recognize and act appropriately to written signals, (e.g., 'Exit', 'Walk', 'Danger', 'Toilets')	1	2
16.	Can read simple sentences	1	2
17.	Knows letter sounds of the alphabet	1	2
18.	Can build simple words through knowledge of letter sounds	1	2
19.	Can read and follow a line of instructions, (e.g., 'cut along a dotted line')	1	2
20.	Can read a short list or sequence of instructions, (e.g., menu, recipe, gardening instructions)	1	2
21.	Can read and follow a short list or sequence of instructions (e.g., menu, recipe, gardening instructions)	1	2
22.	Can read a short story or letter	1	2
23.	Can read a longer story or letter of at least 100 words	1	2
24.	Can look at books/magazines for pleasure	1	2
25.	Can read books/magazines for pleasure	1	2

Writing

	Yes	No
1. Can hold pencil or crayon and attempt to scribble	1	2
2. Can scribble purposefully with pencil or crayon	1	2
3. Can copy letters	1	2
4. Can copy first name	1	2
5. Can write first name independently	1	2
6. Can write first name and last name independently	1	2
7. Can write address independently	1	2
8. Can write telephone number independently	1	2
9. Can copy a single word	1	2
10. Can copy a simple sentence of four or more words	1	2
11. Can write a simple sentence of four or more words independently	1	2
12. Can copy a list (e.g., menu, recipe, gardening instructions)	1	2
13. Can write a list (e.g., shopping list, menu)	1	2
14. Can write a short note independently (e.g., message)	1	2
15. Can write simple sentences when dictated	1	2
16. Can write a short personal letter	1	2
17. Can copy a short descriptive story	1	2
18. Can write a short descriptive story	1	2
19. Can copy short factual statements (e.g., accounts of events)	1	2
20. Can write short factual statements (e.g., accounts of events)	1	2
21. Can write and address personal letters	1	2

Group 1: Sample of Copying Exercise
Student 2: Copying from Blackboard

22.7.1991

Scrambeld Egg

Ingreients Utensils

12eggs bowl

tablespoons milk tablespoon

oil egg beater

tomato todecorate fryingPan

bread eggslice. PlateS forks

Scrambled Egg.

Teacher's guide for page to page copying

Ingredients

12 eggs

12 tablespoons milk.

oil

tomato to decorate

bread

Utensils

bowl

egg beater

frying pan

egg slice

plates.

forks.

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APPENDIX 5

Group 1: Sample of Language Experience Story 22.7.1991
Student 1: Language Experience

We cooked eggs.
We cooked them
in a frying pan.
we decorated it
with tomato.
We put the eggs in
a bowl and beat
them.

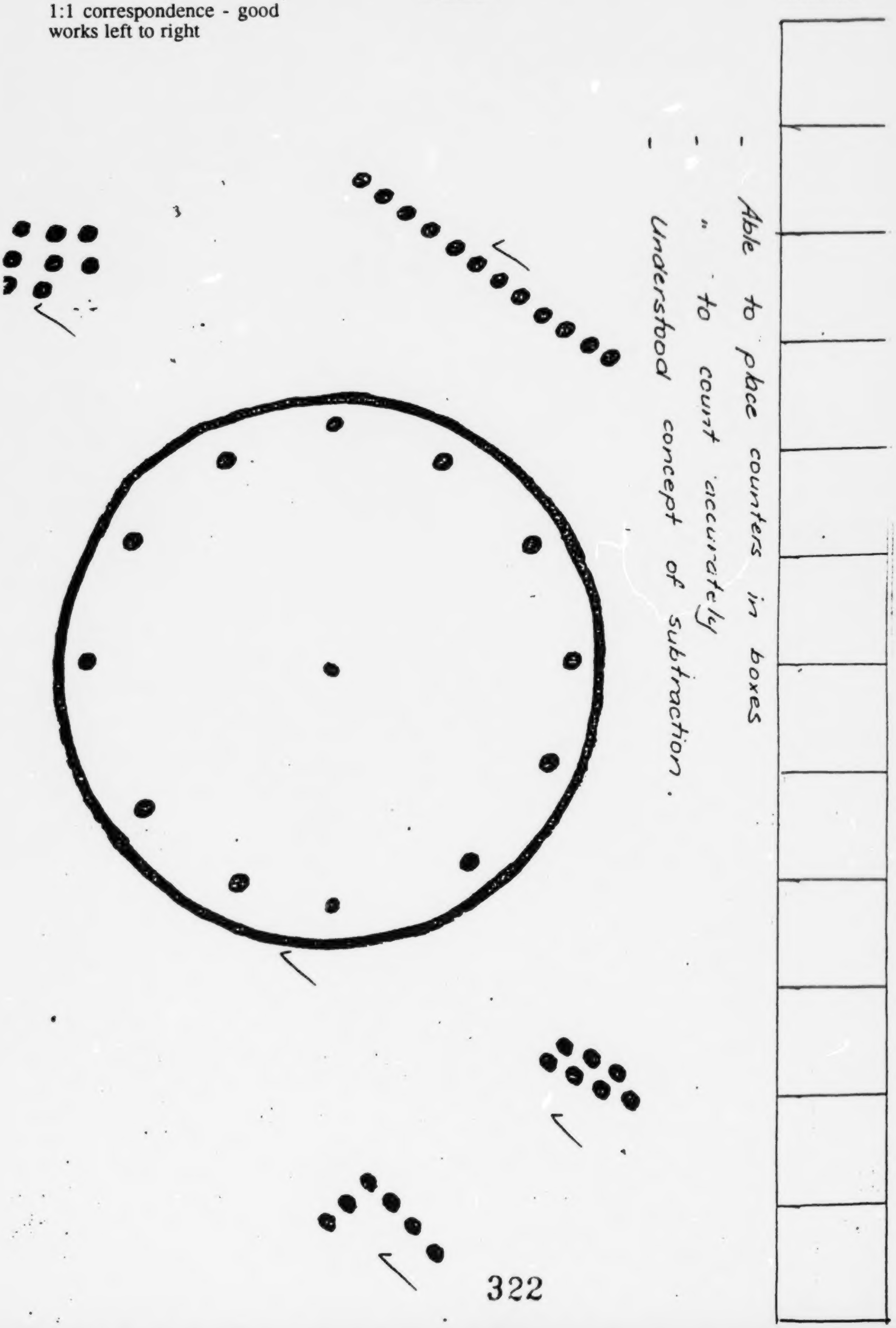
APPENDIX 6

Group 1: Number Game—Sample of a Student's Response Sheet

Student 4

5.9.1991

1:1 correspondence - good
works left to right



- Able to place counters in boxes
- " to count accurately
- Understood concept of subtraction.

APPENDIX 7A

Group 1: Word Recognition Test
Students 1 to 11

12.8.1991

STUDENTS

	1	2	3	4	5	6	7	8	9	10	11
EGG							▨	▨		▨	
EGGS										▨	
MILK								▨		▨	
BUTTER										▨	▨
TOMATO										▨	
OIL										▨	
BOWL										▨	
TABLESPOON										▨	
PLATE										▨	
FRYING PAN										▨	
EGG SLICE										▨	
TONGS										▨	
KNIFE										▨	
FORK										▨	

▨ -Known at first attempt

☐ - Not known

APPENDIX 7B

Group 1: Word Recognition Test
Students 1 to 11

29.8.1991

STUDENTS

	1	2	3	4	5	6	7	8	9	10	11
EGG	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨
EGGS	▨			✓	▨	▨	▨	✓	▨	▨	✓
MILK	✓			▨	▨	▨	▨		▨	▨	▨
BUTTER							▨	▨		▨	▨
TOMATO	▨				▨	▨				▨	▨
OIL	▨	▨	▨		▨	▨	▨	▨	▨	▨	▨
BOWL						▨				▨	▨
TABLESPOON						▨				▨	
PLATE	▨									▨	
FRYING PAN							▨			▨	
EGG SLICE	▨	◩	◩		▨	▨		✓ ◩		▨	◩
TONGS										▨	
KNIFE						✓			▨	▨	▨
FORK	▨				▨	✓			▨	▨	

▨ Correct on first attempt

✓ - Self corrected
- Corrected on second attempt

◩ -First word of the two word combination correct

☐ - Not known

APPENDIX 8

Group 1: Word Snap Game Sheet

flour	egg
teaspoon	tablespoon
butter	milk
bowl	knife
fork	eggs
tomato	stove
sugar	frying pan

APPENDIX 9

Group 2: Word Recognition Test
Students 1 to 7

17.10.1991

Students	1	2	3	4	5	6	7
happy birthday	X	X	X	X	X	X	X
best wishes	X	X	X	X	X	X	X
many happy returns	X	X	X		X	X	X
especially for you	X		X		X	X	X
message	X				X	X	
best of everything	X					X	X
special day	X	X	X	X	X	X	X
card	X	X	X		X	X	X
party	X		X	X	X	X	X
greetings	X	X	X	X	X	X	X
happiness	X			X	X	X	
gift	X	X	X		X	X	
ribbon	X		X		X	X	
birthday wish	X	X	X		X	X	
surprises	X	X			X	X	
celebration	X					X	
paper	X				X	X	
presents	X		X		X	X	

☒ Correct on first attempt

☐ Not known

APPENDIX 10

Group 2: Materials Used Representing Different Genres

Toast ☐

Bread ☐

Vegemite ☐
Plum Jam ☐
Peanut Butter ☐
Lemon Spread ☐

Hot Meals

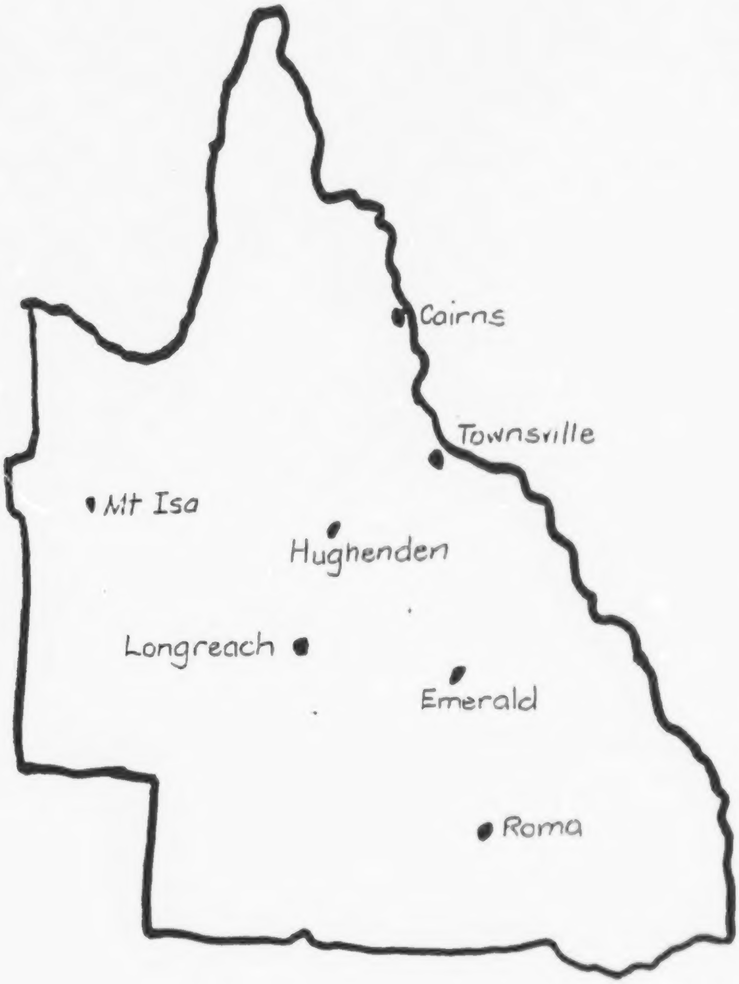
Bacon and Eggs ☐
Baked Beans on Toast ☐
Spaghetti on toast ☐
Scrambled Eggs ☐
Sausages and Tomatoes ☐
Steak and Eggs ☐
Lamb Chops, Tomatoes and Onion ☐
Savoury Mince ☐

Newspaper

Morning Bulletin ☐
Courier Mail ☐
Australian ☐

28 OCT 1991

Find the postcodes for these towns.


Cairns
Townsville
Mt Isa
Hughenden
Longreach
Emerald
Roma

Cairns ______________

Townsville ______________

Mt. Isa ______________

Longreach ______________

Emerald ______________

Roma ______________

Hughenden ______________

2(

Invitation

TO ______________________________

YOU'RE INVITED TO ______________________

PLACE ____________________________

____

DATE ____________ TIME ______________

FROM ____________________________

R.S.V.P. __________________________

APPENDIX 11

Group 2: Sample of a Student's Response **21.10.1991**
Student 3

Addressing Envelope

MISS E
8 MC HUllau! ST
NORTH ROCKHAMPTON
4701

TO

EVELYN

BEST WISHES

FROM ROSE

OO XX

Here's wishing you
a Birthday
That's bright and sunny, too,
And one that holds
a special store
Of happiness for You!

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A STUDY OF THE SUPPORT OFFERED TO STUDENTS WITH INTELLECTUAL DISABILITIES AT REDLANDS COMMUNITY COLLEGE

LIST OF APPENDICES

1. Information handout given to teachers by the Disability Officer

2. HAIRDRESSING
   Parts A and B: Extracts from Information Booklet and Response Booklet used in Trade Technology II module, section on ph scale
   Part C: Hair Design Two – Theory Assessment Sheet

3. BUSINESS STUDIES
   Part A: Assignment sheet and student's work
   Part B: Extracts from the Accounting Textbook and Response Book and student's responses

4. AUTOMOTIVE and CONSTRUCTION
   Part A: Extracts from an Automotive handbook
   Part B: Extract from a Construction theory handout with dictated additions
   Part C: Construction assignment sheet
   Part D: Sample of one student's technical drawing exercise

5. HOSPITALITY
   Part A: Extract from Cookery class recipe book
   Part B: Extracts from Cookery Theory handout on fish and Service Theory handout on wine
   Part C: Copy of a page of a Cookery Theory examination paper done by a sample student

6. IMPROVING READING AND WRITING
   Copy of story written in class by a sample student

7. ART
   Assessment Instrument: Printmaking Assignment

8. BASIC COMPUTING
   Extract from Assignment A

9. SPECIAL SCHOOLS INTEGRATION PROJECT HOSPITALITY LESSON
   Handout on table service requirements

APPENDIX 1

Information handout given to teachers by the Disability Officer

INFORMATION PAGE

The following article is from Link Up (Library Services for People with Disabilities) No. 66 - February 1991.

INTELLECTUAL DISABILITY

What is Intellectual Disability?

Intellectual disability is a limitation in intellectual ability that slows an individual's ability to learn and function within society. The identification of a person's performance is based on an assessment of a person's performance on intelligence tests and adaptive behaviour tests. An individual's level of performance, as assessed, can change with time and circumstances.

Modern research and practice have shown that with skilled training and opportunities for development, people with intellectual disability have much greater potential for developing skills and for participation in community life than previously had been thought possible.

Four categories of intellectual disability have traditionally been used - mild, moderate, severe and profound, in order to indicate the perceived relative degree of difficulty an individual has with learning. Reliance on such categories can result in failure to provide the opportunities for each individual to develop.

Defining and Determining Intellectual Disability

There are many approaches and systems used to define and determine intellectual disability. These include:

- the clinical approach which views intellectual disability as a condition which is within the person, e.g. an illness; a cause determined and certain treatments applied which will have known outcomes on the course of the condition;
- the social systems approach which views intellectual disability as a product of the social environment, occurring within environments in a selective manner, and open to remediation by changing that environment in systematic ways;
- the American Association of Mental Retardation (AAMR) Classification System which defines intellectual disability using IQ and adaptive behavioural levels as the principal components. System used widely by service providers;
- The World Health Organisation (WHO) Classification System which distinguishes between impairment, disability, and handicap, and takes into account the social environment within which the person functions.

What Causes Intellectual Disability?

Many factors have been established as causing intellectual disability but in the majority of cases no identifiable reasons have been found.

Some known causes include:

- brain injury due to lack of oxygen at birth;
- brain injury during or after birth;
- brain infection before or after birth;
- disorders of metabolism, growth or nutrition;
- chromosome abnormalities;
- extreme prematurity;
- poor diet and inadequate health care;
- drug misuse during pregnancy (includes excessive consumption of alcoholic and smoking);
- intoxication;
- trauma.

Can Intellectual Disability be Prevented?

As previously stated, no identifiable causes have been found in the majority of instances of intellectual disability. However, some preventive measures include:

- adequate pre-natal supervision; adequate supervision of labour, including foetal monitoring; adequate care of new born children;
- identification of 'at-risk' pregnancies; pre-natal diagnosis; genetic counselling;
- screening tests for new-born babies;
- rubella vaccine for schoolgirls;
- follow-up of 'at-risk' babies;
- early detection of visual/hearing defects;
- regular visits to Maternal and Child Health Centres;
- early Intervention Programs;
- good diet and health care.

Lifestyles for People with Intellectual Disabilities

People with intellectual disabilities make a positive contribution to the community. Most have only a mild disability and many, with or without support, live independent lives in the community. They may have their own accommodation and varying levels of employment.

People with more severe disabilities are, in increasing numbers, living with enhanced independence in a range of community-based accommodation such as community residential housing where trained staff provide support. The new lifestyles are a result of improved developmental programs, changed expectations of what people can achieve and increased community support.

What do People with Intellectual Disabilities Want From Life?

The short answer to this question is - the same as everyone else.

This includes:

- a range of personal and social relationships;
- education;
- a satisfying place to live;
- paid employment;
- access to, and participation in, community activities;
- opportunities to make choices and decisions in life;
- to feel competent, self-reliant, secure and regarded positively by other people. Libraries can play an important role for people with intellectual disabilities in achieving this.

How Common is Intellectual Disability

It is estimated that about 112,300 Australians (approximately 0.7% of the population) have an intellectual disability.

Studies suggest that of the Australian population identified as having an intellectual disability:

- the proportion is increasing;
- the age effect exists;
- there are more males than females;
- there is a relationship between industrial complexity and prevalence of the disability;
- there are strong racial and socio-economic influences on the prevalence of the disability.

Terminology

Many terms are used to describe people with an intellectual disability. Terms may vary across local, state, national and professional boundaries.

In the past, expressions such as 'mentally retarded' or 'mentally handicapped' have been used to describe people with intellectual disabilities, often portraying them as being separate or different. However, labels can be misleading and create negative impressions. The fact is, people with intellectual disabilities experience the things that make them human like everyone else, but they learn and develop intellectually at a slower rate than average.

The term 'intellectual disability' is relatively recent and fairly acceptable. It is not connected with mental or physical illness and implies that the disability need not become a handicap.

References

Australian Bureau of Statistics 1989, Disabled and Aged Persons Australia, 1988: Preliminary Results, Cat. No. 41180.0, ABS, Canberra.

Cocks, E. c1989, An Introduction to Intellectual Disability in Australia, Australian Institute on Intellectual Disability, Canberra.

NSW Council on Intellectual Disability 1989, Glossary on Intellectual Disability, NSW Council on Intellectual Disability, Denistone East, NSW.

Community Services Victoria 1989, Intellectual Disability: Some Questions and Answers. Community Services Victoria, office of Intellectual Services, Melbourne.

NOTE:

Other sources estimate that at least 1% of the population has an intellectual disability.

TEACHING STRATEGIES

- Acknowledge that people with intellectual disability have the same needs, fears, likes and desires as other people.
- Let the person do things for her/himself (avoid the temptation to take over).
- Patience and a willingness to repeat messages are essential.
- Additional tutorial support.
- Flexible entry/exit points.
- Give all instructions to the student slowly and simply.
- Repeat instructions visually or give written directions.
- Ensure that the student understands the task and knows what is expected of him.
- Supervise the student regularly and closely while performing any task.
- Supervise the student when he or she is using dangerous equipment or in a distractible environment, i.e. noisy, or many people nearby.
- Keep the student away from dangerous equipment if in doubt.
- Monitor the student's performance to ensure correct task completion. Give feedback on performance regularly.
- Do not overload the student with information or too many job tasks at one time.
- Allow for slowed performance on tasks.
- Be aware of precautions due to medication the student may be taking.
- Be aware the student may not be able to drive.
- Assess over a period of time the student's work abilities and suit abilities to task (formal work assessment may be required).
- Provide the student with regular rest breaks, as needed.
- Ensure the student has learnt the task adequately.
- Know that repetitive tasks may be easiest to handle initially.
- Grade tasks as the student becomes more familiar and competent.
- Do not give the student too much responsibility initially.

Do not assume that because the student has performed the task once, that they understand and can do it. Most people with intellectual disabilities have short or long-term memory problems. Ensure they can do the task more than five or six times before reducing supervision. Check that they have remembered the previous days work before proceeding with further training.

Continual repetition and re-inforcement of instructions will assist learning.

Be precise while training. Once a person with intellectual disability learns a task incorrectly it takes a long time for them to unlearn it and do it the correct way.

NOTE:

Further information is available in the Safety Handbook "Disabled Persons Safety Policy", available in the College - see your Safety Officer.

APPENDIX 2A

Extracts from Information Booklet and Response Booklet used in Trade Technology II module, section on ph scale.

TRADE TECHNOLOGY 11
INFORMATION BOOKLET

PH SCALE.

The PH (Potential Hydrogen) of a liquid. refers to its degree of acidity or alkalinity. The PH scale is a measurement used to determine the acidity or alkalinity of a substance, the scale ranges from 0 to 14, with 7 being the neutral point. Anything below 7 being acid. The lower the pH the greater the degree of acidity. Anything above 7 being alkaline. The higher the pH, the greater the degree of alkalinity. So therefore when we need to compare or measure the strength of this particular family of chemicals we use the pH scale. The scale is measured in units of pH, going from 0 - 14.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 PH

Remember 7 is
neutral (eg water)

When a liquid is neutral it is neither acid or alkaline.

If we think of pH in terms of "parts of hydrogen" then we can remember that the more "parts of hydrogen" the more acidic the product. The less "parts of hydrogen" the more alkaline is the product

How can we test for pH values (acidity or alkalinity)?
This is quite straight forward. Use indicators.

The indicators of acid or alkali are chemicals that change their colour in the different circumstances. For instance most people have heard of Litmus. This is a plant extracted colour that turns red in acid and blue in alkaline solutions.

APPENDIX 2B

Extracts from Information Booklet and Response Booklet used in Trade Technology II module, section on ph scale.

TRADE TECHNOLOGY 11
RESPONSE BOOKLET

pH SCALE AND THE HAIR. **WEIGHTING 10%**

Ques 1.

What does pH as used in the term **"pH scale"**, stand for?

____

1 mark( )

Ques 2.

Using the list of words, complete the following statements.

perm **families** **liquids** **divided** **alkalis**

chemicals **large**

Each day we find around us many different ____________________. At home, or in the salon, from water to ____________________ lotion, you deal with chemicals. The total group of chemicals is so ____________________ it is impossible to study them all at the same time. To make things easier, chemicals may be ____________________ into smaller groups or ____________________. In each family, the chemicals have something in common. For instance, chemicals may be solids, ____________________ or gases. Liquids may also be divided up into acids or ____________________.

3marks ( )

Ques 3

Circle true of false.

A normal hair has a liquid coating of sebum sweat and other substances	**true/false**
The ph of the acid mantle which coats the hair usually ranges from 4.5. to 6.5.	**true/false**
When hair is in good condition its natural state is alkali.	**true/false**
Very strong acids or alkalis destroy the hair.	**true/false**

2marks ( )

APPENDIX 2C

Hair Design Two - Theory Assessment Sheet

1) Directions: This is a multiple choice test. Fill in the blanks with the correct answer.

With _______________ distribution, all lines extend in the same direction at a constant distance apart.

A. Diagonal B. Parallel C. Unequal D. Radial

1 mark

2) A fingerwave is made up of two ___________ oblongs with a connecting ridge.

A. Similar B. Diagonal C. Vertical D. Alternating

1 mark

3) List the 3 steps taken when combing out a hair style

1. ....
2. ....
3. ....

3 marks

4) a. Draw the following pincurls

1. On base
2. Indentation

2 marks

b. From the above drawing name the following parts of the pincurl

1. Base
2. Arc
3. Circle

3 marks

5) Sketch a ware formation, and label the following:

1. Concave End
2. Convex End
3. Ridge/Crest
4. Trough
5. Placement of the first flat pincurl

Sketch 5 marks

APPENDIX 3A

Assignment sheet and student's work

October 1991

FRONT OFFICE PROCEDURES

BUSINESS ENVIRONMENT B

Prepare, for presentation to the class, a five - ten minute seminar on ONE of the following topics:

- * Consumer credit - Bankcard, Hire Purchase, Lay-by, Credit Accounts.
- * Differences between banks, building societies, credit unions and finance companies.
- * Caveat Emptor - contrast and compare the relative powers of buyer and seller. Note the influence of advertising, anti-trade practices and the need for consumer protection.
- * Types of consumer protection e.g. accurate weights and measures, product quality and after sales service, honest advertising, controls on levels of market concentration, high-pressure salesmen.

Use Overhead transparencies and handouts to illustrate your topics. See me for any transparencies or pens or photocopying you may need.

This is an assignment for you to do while the others are at work experience, it will count towards your attendance requirements and will replace the glossary for assessment. It will gain a mark of 20% but a high standard of work is expected.

Credit Account

O.H.P.

names of credit companies

A/P teachers credit union
Credit

Uses

C

a ~~cash~~ credit account can be applied at their large retail stores and ~~void~~ used to buy goods in that store

How ~~to~~ apply for credit -
Ⓐ Make an application ~~for~~ at a finance ~~comp~~ company ~~of~~ or credit union and put asset in ~~us~~ as a ~~garante~~
~~Kut assign to be~~

APPENDIX 3B

Extracts from the Accounting Textbook and Response Book and student's responses

CH. 1 Starting an accounting system

If you do not have a workbook, prepare a form similar to the one below.

Business No.	Assets	=	Liabilities	+	Capital	Answers
1.	8,000.00	=	2,000.00	+	?	*6,000.00*
2.	15,000.00	=	8,000.00	+	?	
3.	9,000.00	=	?	+	5,500.00	
4.	6,495.95	=	1,345.30	+	?	
5.	?	=	6,780.00	+	4,220.00	
6.	364,777.50	=	110,107.50	+	?	
7.	2,987.70	=	978.10	+	?	

DRILL 1-D 3 Classifying assets, liabilities and capital

In preparing a balance sheet, it is necessary to classify each item as an asset, a liability, or capital. This drill is planned to give you practice in classifying and locating items on balance sheets.

If you do not have a workbook, prepare a form similar to the one in Table 1.2.

Instructions: Classify each of the following balance sheet items by writing the word *asset*, *liability*, or *capital* in the proper column. For example, the first item, office furniture, is an asset. Because assets appear on the left-hand side of the balance sheet, the word *Asset* is written in the left-hand column.

Items to be Classified	Balance Sheet	
	Left-hand side	Right-hand side
1. Office furniture................	*Asset*	
2. Delivery equipment............		
3. Amount owed to Apex Garage...		
4. Cash........................		
5. Amount a business is worth.....		
6. Machinery..................		
7. Factory building..............		
8. Unpaid telephone bill...........		
9. Office equipment..............		
10. Any amount owned............		
11. Any amount owed............		
12. Difference between total assets and total liabilities............		

Classifying assets, liabilities, and capital

DRILL 1-D

Items to be classified	Balance Sheet	
	Left-hand side	Right-hand side
1. Office furniture	*Asset*	
2. Delivery equipment	asset	
3. Amount owed to Apex Garage		Liability
4. Cash	asset	
5. Amount a business is worth		capital
6. Machinery	asset	
7. Factory building	asset	
8. Unpaid telephone bill		Liability
9. Office equipment	asset	
10. Any amount owned	asset	~~Liability~~
11. Any amount owed		Liability
12. Difference between total assets and total liabilities		Capital

Balance sheet for a small business

PROBLEM 1-1,

Mary Jane Beauty Salon
Balance Sheet
6 May 1990

Assets		
Cash	960 00	
Medical Supplies	440 00	
Motor Vehicle	2 800 00	
Medical & Surgical Equipment	2 000 00	
Office Equipment	1 800 00	
Medical Library	480 00	

cancelled
See over

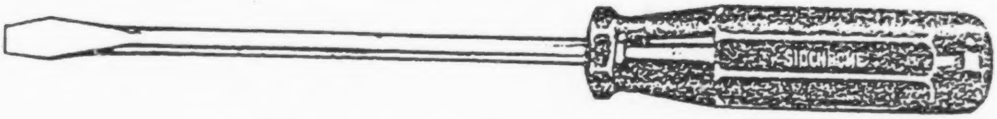
APPENDIX 4A

Extracts from an Automotive handbook

SCREWDRIVERS

Motor Mechanics should have many different types and sizes of screwdrivers.

PLAIN SCREWDRIVER



Plain screwdrivers are used
for "slotted head" screws. Only one slot

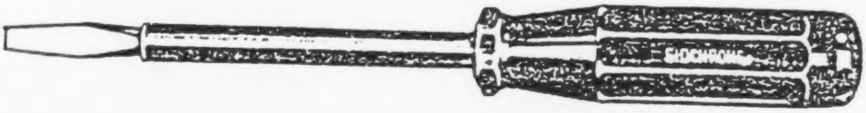
PHILLIPS OR RECESSED HEAD
SCREWDRIVER

These screwdrivers are used for "cross headed" screws

EXAMPLE: Dashboard - Small parts - Panels

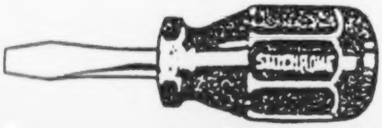
NOTE: Do not use standard screwdrivers on phillips head screws.

INSULATED SCREWDRIVER



An insulated screwdriver must always be used when working on electrical equipment.

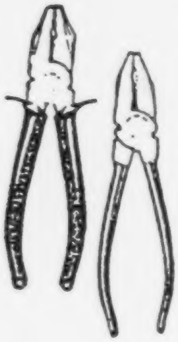
SHORT SCREWDRIVER



Short screwdrivers have short blades and short handles. They are useful for getting into confined spaces.

STUDENT RESPONSE:

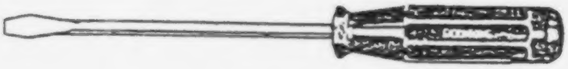
Write the names of the following tools and give one application for each. "Application" means "What they are used for".



NAME: ______________________________________

APPLICATION: ______________________________

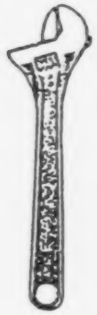
____



NAME: ______________________________

APPLICATION: ________________________

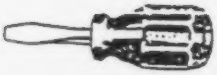
____



NAME: ____________________________________

APPLICATION: ______________________________

____



NAME: ______________________________

APPLICATION: ________________________

____

APPENDIX 4B

Extract from a Construction theory handout with dictated additions

PCJ126 CONCRETE SLAB ON GROUND

PLACE EDGE FORMWORK

The concrete floor for the slab will require edge support until it has set and hardened sufficiently enough to support itself. This can be achieved by two main methods:

1. Placing timber edge formwork.

2. Having brick laid to the slab height.

The first method is suitable for a building which has a timber cladding outside. The building frame can rest on the outside edge of the slab on a metal flashing turned down so the cladding can finish lapping over the edge of the slab making a weather proof seal. There are many methods of setting up formwork for this type of construction, some are shown in Fig. 3. With this method of construction, the concrete edge thus requiring a high quality waterproof finished appearance. With this method it is preferred that the ground surrounding the slab be near level. If the ground has considerable fall, the formwork for the edge of the concrete would become more complex and more expensive to build. Discussion on formwork materials and methods can be derived from Fig.3.

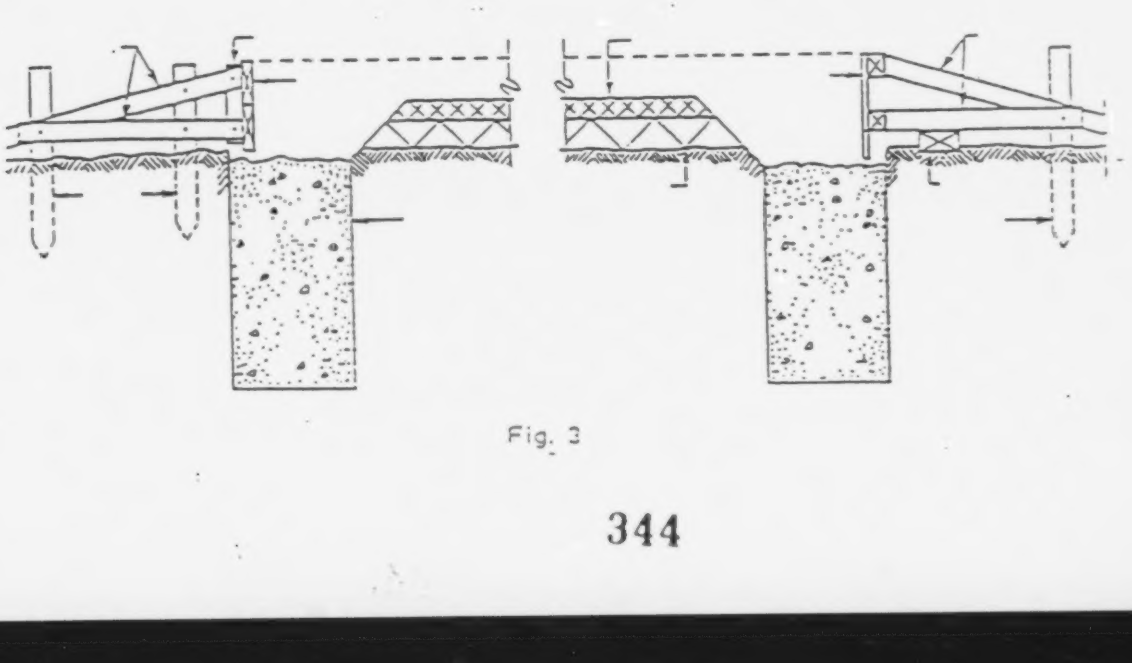


Fig. 3

APPENDIX 4C

Construction assignment sheet.

REDLAND COMMUNITY COLLEGE

SCHOOL	SCIENCE & TECHNOLOGY
SUBJECT	CARPENTRY & JOINERY CON 110
ASSIGNMENT 1	APPROX 500 WORDS
DUE DATE	
WEIGHTING OF MARKS	

Introduction: Wood has been indispensable to man for thousands of years. Besides providing the raw materials for many of the world's largest industries. Trees also provide the basic material for the Construction worker, wood worker or hobbyist. Because of its great value to you in your chosen field of study you should have an understanding of the growth and structure of timber (assignment 1), how it is cut and how it is prepared for use (assignment 2) and how it behaves in use, also some of the insects and predators that effect the strength of timber (assignment 3).

NOTE: ASSIGNMENT CAN BE PRESENTED EITHER IN WRITTEN FORM WITH DRAWINGS OR PHOTOCOPIES OF RELEVANT PAGES TO HELP WITH THE EXPLANATION.

OR A POSTER ON SUITABLE SIZED CARDBOARD SHEET WITH WRITTEN EXPLANATION AND DRAWINGS OR PHOTOCOPIES OF RELEVANT PAGES TO HELP WITH THE EXPLANATION.

WRITE APPROX 500 WORDS

1. Write about the growth of trees explaining fully their life cycle and the difference between hardwood and softwood.

2. Explain fully the various parts of a tree. Explain pith, growth rings, medullary rays, sapwood, cambium layer, bark.

3. Identification of timber. List a number of timbers commonly used, native and imported and state where they are grown and what they are mostly used for in the construction industry.

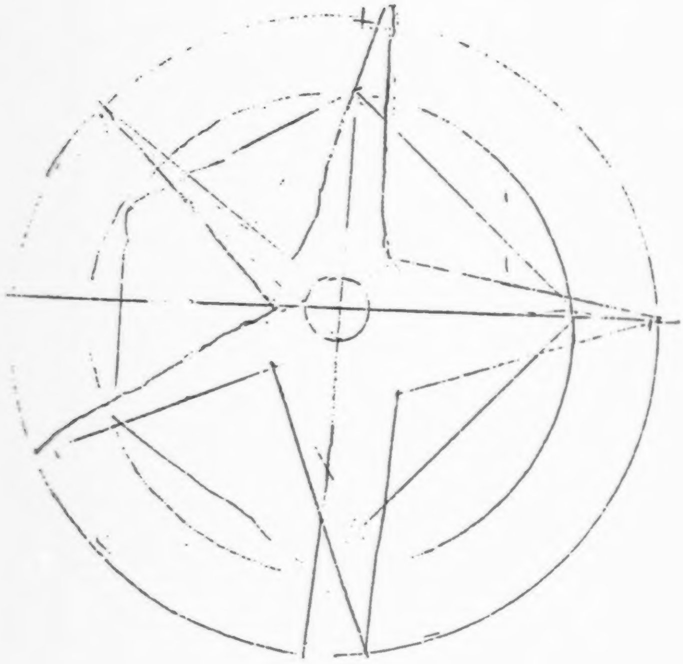
REFERENCE BOOKS

Basic Trade Manuals Keable & Leadbeater
Wood in Australia Types & Properties
Keith R. Bootle
Carpentry & Joinery 1st Year Theory
for Ed Manual No. 2 Source Book
Module C Timber as a Building Material
Timber, The Application T.A.1 T.A.2
Forestry Information Sheet No.7

Note: All of these books required for this assignment are in the Library behind the front counter (FROZEN). They cannot be borrowed but can be used in the reading section of the Library. To obtain any of this material your I.D. card will have to be handed to the Librarian at the counter.

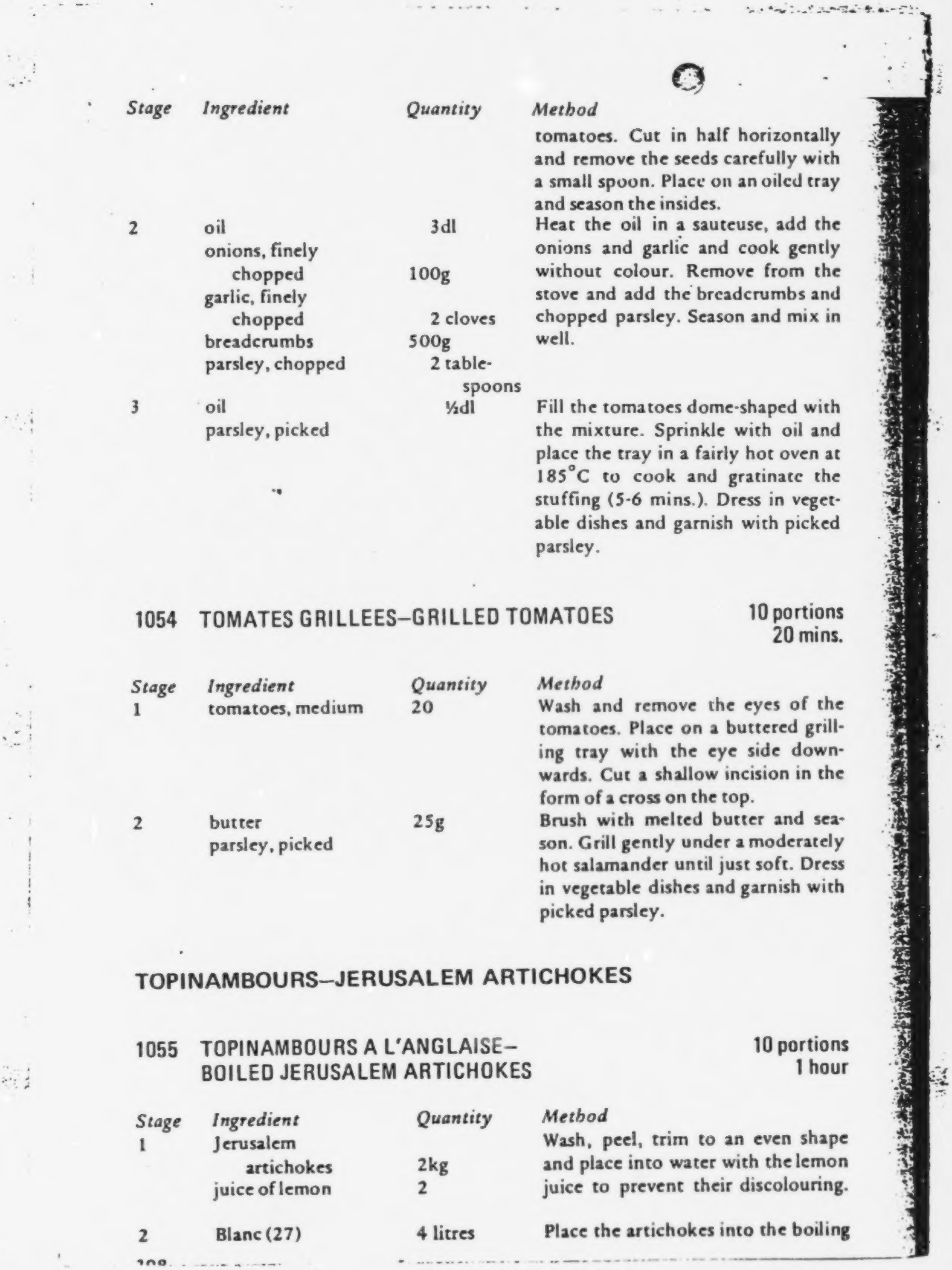
APPENDIX 4D

Sample of one student's technical drawing exercise



APPENDIX 5A

Extract from Cookery class recipe book



Stage	Ingredient	Quantity	Method
			tomatoes. Cut in half horizontally and remove the seeds carefully with a small spoon. Place on an oiled tray and season the insides.
2	oil onions, finely chopped garlic, finely chopped breadcrumbs parsley, chopped	3dl 100g 2 cloves 500g 2 tablespoons	Heat the oil in a sauteuse, add the onions and garlic and cook gently without colour. Remove from the stove and add the breadcrumbs and chopped parsley. Season and mix in well.
3	oil parsley, picked	½dl	Fill the tomatoes dome-shaped with the mixture. Sprinkle with oil and place the tray in a fairly hot oven at 185°C to cook and gratinate the stuffing (5-6 mins.). Dress in vegetable dishes and garnish with picked parsley.

1054 TOMATES GRILLEES–GRILLED TOMATOES

10 portions
20 mins.

Stage	Ingredient	Quantity	Method
1	tomatoes, medium	20	Wash and remove the eyes of the tomatoes. Place on a buttered grilling tray with the eye side downwards. Cut a shallow incision in the form of a cross on the top.
2	butter parsley, picked	25g	Brush with melted butter and season. Grill gently under a moderately hot salamander until just soft. Dress in vegetable dishes and garnish with picked parsley.

TOPINAMBOURS–JERUSALEM ARTICHOKES

1055 TOPINAMBOURS A L'ANGLAISE–BOILED JERUSALEM ARTICHOKES

10 portions
1 hour

Stage	Ingredient	Quantity	Method
1	Jerusalem artichokes juice of lemon	2kg 2	Wash, peel, trim to an even shape and place into water with the lemon juice to prevent their discolouring.
2	Blanc (27)	4 litres	Place the artichokes into the boiling

BEST COPY AVAILABLE

Stage	Ingredient	Quantity	Method
			blanc, cover with a piece of muslin and simmer gently until just tender (approx. 10-15 mins.). Drain well.
3	Sauce Crème (124)	3dl	Add the artichokes to the sauce and mix in gently. Serve in vegetable dishes.

1056 TOPINAMBOURS PERSILLES

Prepare Topinambours à l'Anglaise (1055) to end of Stage 2. Toss gently in 50g of melted butter and serve in vegetable dishes sprinkled with chopped parsley.

MIXED VEGETABLES

1057 JARDINIERE DE LEGUMES

10 portions
1 hour

Stage	Ingredient	Quantity	Method
1	carrots turnips peas French beans	350g 350g 250g 250g	Cut the carrots and turnips into batons 2cm long x 4mm x 4mm. Remove the tops, tails and any strings from the beans and cut into diamond-shaped pieces.
2	butter, melted	60g	Cook each vegetable separately in boiling salted water, drain, mix together lightly and toss in the melted butter.

1058 MACEDOINE DE LEGUMES–MIXED VEGETABLES

This is prepared in the same way as Jardinière de Légumes (1057) but cutting the carrots and turnips into ¼cm dice.

SPECIAL POINT
The vegetables for Jardinière or Macédoine de Légumes may be cooked in one pan instead of separate pans in the following manner: First place the carrots in boiling salted water and cook for approx. 10 mins. Then add the beans and cook for a further five minutes. Thirdly add the peas and turnips. A further 5 mins. will complete the final cooking of all the vegetables.

POMMES DE TERRE–POTATOES

1059 POMMES A L'ANGLAISE (NATURE)–BOILED POTATOES

10 portions
35 mins.

Stage	Ingredient	Quantity	Method
1	potatoes, peeled	2kg	Cut into sections and turn barrel-

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APPENDIX 5B

Extracts from Cookery Theory handout on fish and Service Theory handout on wine

ALEXANDRA HILLS SENIOR COLLEGE

FISH

TYPES OR VARIETIES

(1)	WHITE FISH	(A) Round	(Cod, Whiting, Hake.
		(B) Flat	(Sole, Flounder, ~~Brill~~
(2)	OILY FISH	All Round	(Herring, Mackerel, Salmon.
(3)	SHELL FISH	(A) Crustacea	(Lobster, Crab, Shrimp
		(B) Mollusca	(Oyster, Mussels

PURCHASING

Supplies of fish are subject to weather conditions and to the fact that shoals of certain fish vary their positions at different times of the year. Therefore some fish are in season all year and some are seasonable.

Fresh fish is bought by the kilogram or by the number of fillets or whole fish that is required.

For example 120 Kg of Salmon can be ordered as:

10 x 12 Kg, 12 x 10 Kg
20 x 6 Kg, 24 x 5 Kg

120 Kg of fillet sole can be ordered as:

6 x 20 Kg or 1200 x 100 grams

TERM 2 WEEK 9

PRELIMINARY STUDIES

HOSPITALITY

FOOD & BEVERAGE SERVICE

WINE APPRECIATION

The first senses used when studying wine is SIGHT. How does the wine look? To check the visual appearance of wine it is best to hold the glass at an angle away from the eye and against a white background.

1. Is it clear?
2. If Red wine is it 'Purplish' (young) or 'Brick' with age?
3. If White wine is it very 'light' and touched with 'green' (chlorophyl) or turning golden with age?

Some terms associated and used by experts: -

The wines appearance -

BLACKISH - young red, perhaps very tannic, will take a long time to mature

BRICK-RED - colour of mature claret

BRILLIANT - completely clear

BROWN - except in sherry or madeira brown wine is too old

CLOUDY - something is wrong; all wine should be bright

GRIS - very pale rosé. The speciality of some parts of France

INTENSE - a useful but undefinable word for colour

MADERIZED - brown or growing brown with effect of oxygen and age

PELURE D'OIGNON - 'onion skin'; the tawny pink of Provençal rosés or the signs of browning in an aging wine

PERLANT - 'pearling' (or pétillant); wine with natural fine bubbles which stick to the glass

PURPLE - a young colour; translucent in young Beaujolais; deep in red wine which will take time to mature

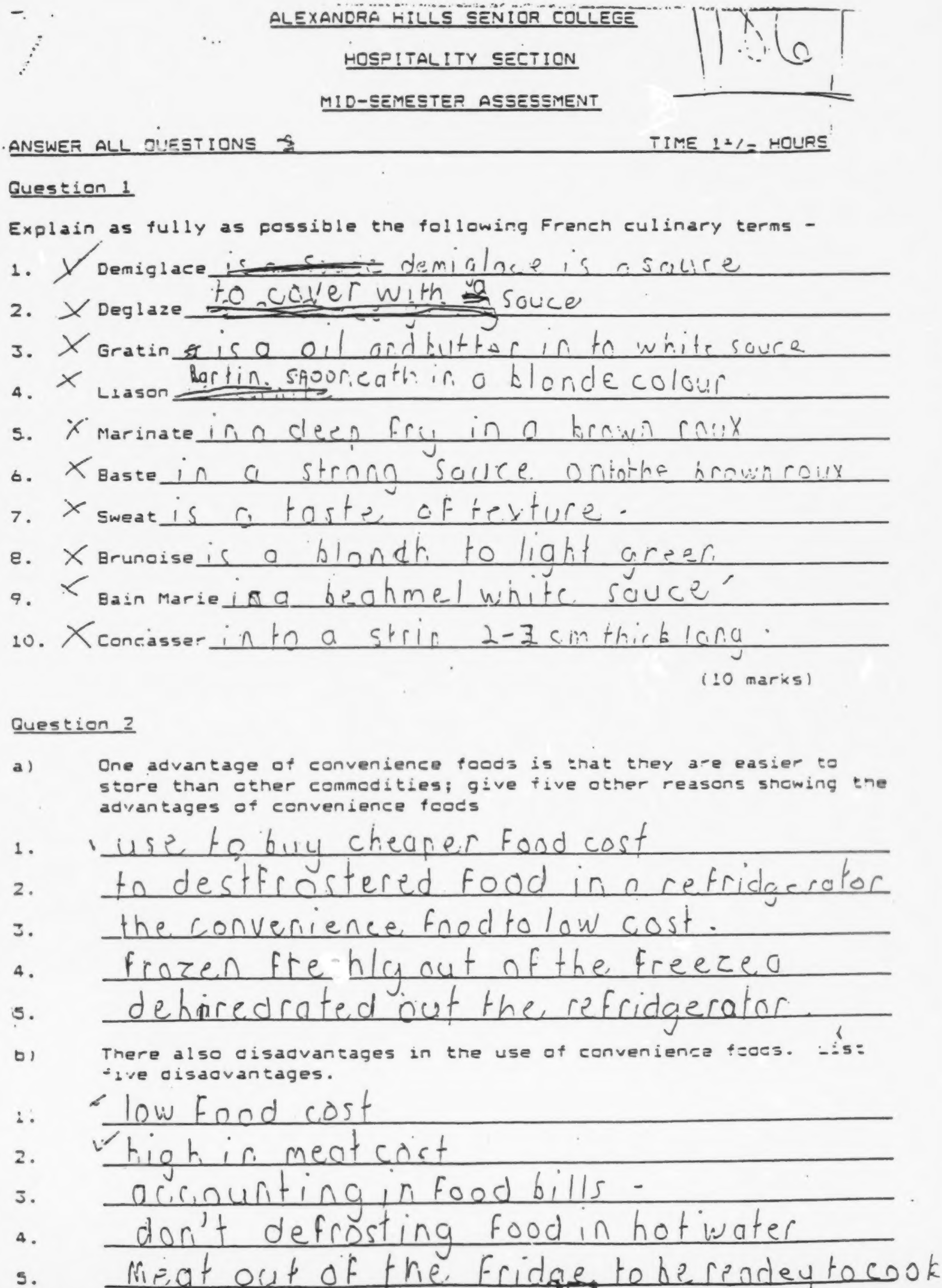
ROSE - pink; neither red nor white; a term of abuse for red wine

RUBY (of port in particular) - the full red of young wine

TAWNY (of port in particular) - the faded dark amber of old wine

APPENDIX 5C

Copy of a page of a Cookery Theory examination paper done by a sample student



ALEXANDRA HILLS SENIOR COLLEGE

HOSPITALITY SECTION

MID-SEMESTER ASSESSMENT

11.56

ANSWER ALL QUESTIONS — TIME 1½ HOURS

Question 1

Explain as fully as possible the following French culinary terms -

1. ✓ Demiglace ~~is a sauce~~ demiglace is a sauce
2. ✗ Deglaze ~~to cover with a~~ souce
3. ✗ Gratin is a oil and butter in to white souce
4. ✗ Liason ~~Bartin.~~ saooneath in a blonde colour
5. ✗ Marinate in a deep fry in a brown roux
6. ✗ Baste in a strong sauce onto the brown roux
7. ✗ Sweat is a taste of texture.
8. ✗ Brunoise is a blondh to light green
9. ✓ Bain Marie is a beahmel white sauce
10. ✗ Concasser in to a strip 2-3 cm thick long.

(10 marks)

Question 2

a) One advantage of convenience foods is that they are easier to store than other commodities; give five other reasons showing the advantages of convenience foods

1. use to buy cheaper Food cost
2. to destfrostered Food in a refridgerator
3. the convenience food to low cost.
4. frozen freshly out of the freezea
5. dehiredrated out the refridgerator.

b) There also disadvantages in the use of convenience foods. List five disadvantages.

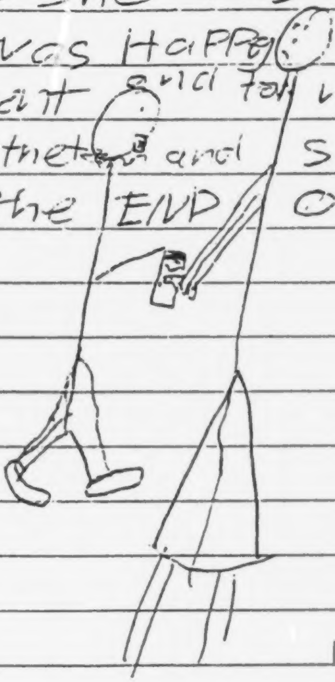
1. ✓ low Food cost
2. ✓ high in meat cost
3. accounting in Food bills -
4. don't defrosting food in hot water
5. Meat out of the fridge to be readey to cook

APPENDIX 6

Copy of story written in class by a sample student

17.10.1991

Last nigHT I saw Big SPirde
and we got the Big SPirde in a
Jary we saw He legs They ware Big and
Hery and we are go Put in the Jary and Put
it in The Claseral room and gave it to
The ~~[illegible]~~one of the tereay She got the
SPirde She was NOT Happy and The
KiD was Happy the KiD got Home
and wait and for mum I got the SPirde
gave to the te[illegible] and SHe was NOT Happy it was
funny the END of the Story.



SUBJECT:
IMPROVING READING AND WRITING

The student was told to use the list of word association responses (over page) and create a short story from them.

P.T.O.

APPENDIX 7

Assessment Instrument

Term 4 1991

Printmaking Assignment

OBJECTIVES: The student should:

1) understand, and use the correct and appropriate terminology associated with all forms of printmaking.
2) understand and describe clearly the basic processes of printmaking.
3) gain a knowledge of the differences in the approach to media, technique and subject matter by printmakers working in the different strands of printmaking.
4) appreciate the work of artists who choose printmaking as their medium for expression.
5) appreciate the historical origins of printmaking as well as the work being done by contemporary printmakers.

ASSESSMENT CRITERIA:

1. The demonstrated ability to present information accurately, concisely and attractively.
2. The demonstrated ability to distinguish between and appreciate the various printmaking techniques.
3. The demonstrated ability to evaluate and make judgements about the work of printmakers.

TASK: Answer each question in complete sentences, and use illustrations where appropriate.

1. What is a print? (2 marks)

2. Print etiquette requires that prints be numbered and signed in a certain format, describe this procedure. (3 marks)

3. Briefly describe the four basic printmaking processes:
a) Relief b) Intaglio c) Lithography d) Silkscreen
(12 marks)

4. Select one artist from each of the following areas, and complete the following research for each printmaker:

Select one from each of these groups:
a) intaglio or relief b) lithography or silkscreen

Complete the following research for each printmaker:

a) A brief biography of the artist (100 words max.)
b) Select one major print, draw and describe it, in terms of subject, form and content.
c) Discuss the techniques used to produce the work.
d) How was the artist inspired, or influenced, to create the work.

(10 marks)

APPENDIX 8

Extract from Assignment A

Flights Database

The following data concerns passengers boarding flights at Brisbane Airport.

Flight Details

Flight Number	Date	Destination	Plane	Pilot
317	06/04/91	Melbourne	747	K Perkins
319	11/04/91	Sydney	727	K Perkins
317	11/04/91	Melbourne	Airbus	R Rogers
322	12/04/91	Adelaide	?	K Arnold
320	12/04/91	Perth	Airbus	R Rogers
317	12/04/91	Melbourne	747	?

Passengers

Flight Number	Date	Given	Surname	Seat	Paid	Food
317	06/04/91	Ralph	McTell	1	y	n
		Mary	Hardcastle	17	n	v
		John	Smith	18	y	n
		John	Smith	19	y	n
		Henry	Miller	23	n	d
		James	Taylor	12	n	v
		Geoff	Macmillan	7	y	n
319	11/04/91	John	Smith	3	y	n
		Kelvin	Matthews	4	n	o
		Frederick	Forsythe	6	y	v
		John	Lennon	11	y	v
		Ringo	Starr	15	y	v
		Peter	Frampton	19	y	n
317	11/04/91	Janet	Michaelson	34	y	d
		Amanda	Bennett	52	n	b
322	12/04/91	James	Joyce	11	y	n
		Frederick	Forsythe	17	y	v
		Patrick	Crawford	107	y	d
320	12/04/91	Dianne	Peterson	113	n	n
		Georgina	Dalwinkle	23	n	j

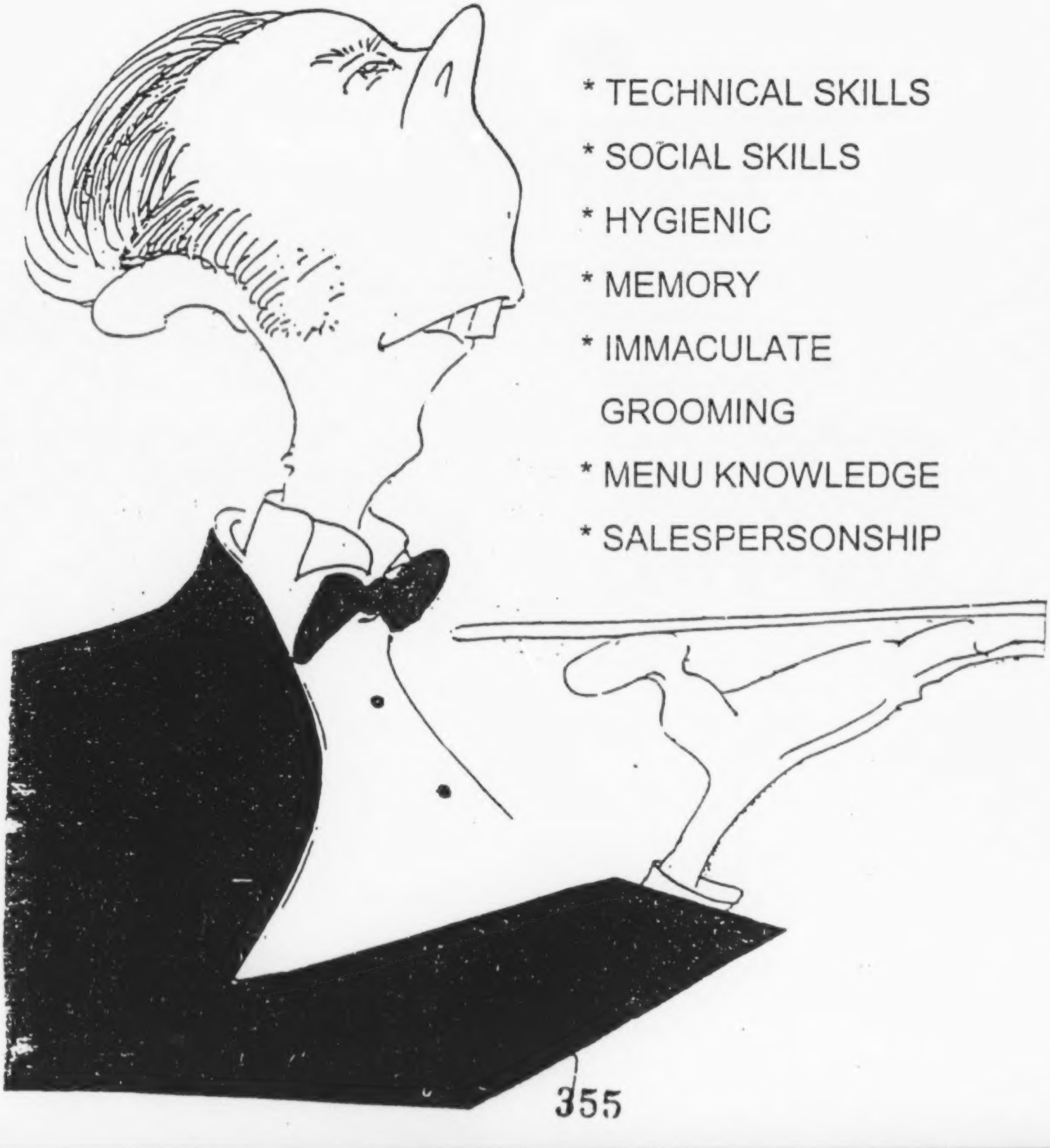
N.B. Paid (Yes/No)
Food (normal/diabetic/vegetarian/vegan(b)/jewish/muslim/other.

APPENDIX 9

Handout on table service requirements

A PROFESSIONAL WAITER

SHOULD POSSESS:



- TECHNICAL SKILLS
- SOCIAL SKILLS
- HYGIENIC
- MEMORY
- IMMACULATE GROOMING
- MENU KNOWLEDGE
- SALESPERSONSHIP